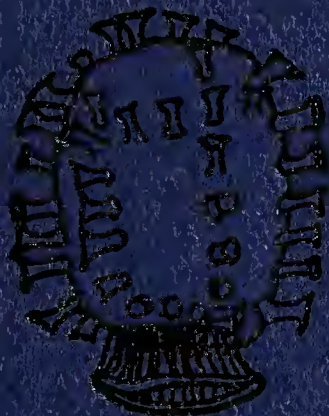


University of Alberta Library



0 1620 1670 0856



WASS





Digitized by the Internet Archive  
in 2019 with funding from  
University of Alberta Libraries

<https://archive.org/details/bluejay504sask>





# BLUE JAY

December 1992



*Blue Jay*, founded in 1942 by Isabel M. Priestly, is a journal of natural history and conservation for Saskatchewan and adjacent regions. It is published quarterly by the **Saskatchewan Natural History Society, Box 4348, Regina, Saskatchewan, S4P 3W6.**

CN ISSN 0006-5099.

Editor: J. Lynn Brown

Associate Editors: Margaret Belcher, J. Bernard Gollop, Wayne C. Harris, Ronald Hooper, John H. Hudson, Bruce A. McCorquodale, Robert W. Nero, Carol A. Scott

**EDITORIAL INFORMATION:** All items for publication should be addressed to the editor, care of SNHS (see address at top). Deadlines for each issue are two months prior to issue, i.e. 1 January, 1 April, 1 July, and 1 October. Please include author's telephone number for editorial contact, if necessary. Typewritten manuscripts should be double spaced and submitted in duplicate. Manuscripts may be submitted in text file form on IBM 5.25 inch DSDD diskettes, which will be returned to authors when copies have been made. The editor uses Word Perfect 5.1 and can accept manuscripts in ASCII format also. Please include a hard copy. For further guidelines, contact the editor. *Blue Jay* is abstracted by BIOSIS.

Common names are used for species where possible. Bird names follow the 1983 revision of the *American Ornithologists' Union Check-list*. Mammals are from Banfield's *The Mammals of Canada* (1974). Since insect and plant names are not standardized, scientific names are included, with authorities where deemed necessary.

Photographs submitted should be on glossy paper. SNHS does not guarantee that any photographic submissions will be returned. Send a copy, unless you don't want to save the original. Prints will be returned on request. Deadlines for photographic materials are one month prior to issue, i.e. 1 February, 1 May, 1 August, and 1 November.

Any material printed for the *Blue Jay* may be reproduced without permission. Credit lines are appreciated. Use of photographs and poetry requires written permission from the photographer/author.

**ADVERTISING:** Advertising rates may be obtained from SNHS (address at top).

**REPRINTS:** A maximum of five reprints of an article are available to authors for a charge of \$0.25 each. Contributors wishing a few extra copies of the current issue may get them at cost. Requests for reprints or extra copies should be made to the editor when the material is submitted for publication.

**SUBSCRIPTION:** Send all renewals, new memberships and correspondence concerning changes of address to SNHS (address at top).

The classes of membership in the Society are as follows: Individual (over 17) \$15; Family \$20; Sustaining \$30; Patron \$60; Life \$600; Youth (under 18) \$8; and Senior (over 64) \$13. Sustaining and Patron memberships include the regular fee plus a donation for which a receipt is available upon request, for income tax purposes. Bulk orders (minimum of five copies to one address) are available to club members and educational institutions at the rate of \$15 for the first subscription and \$13 for each additional one. Outside Canada, fees are \$18. We do not collect GST on memberships.

**Cover:** A Northern Saw-whet Owl, an overnight visitor to the home of Dalton and Shirley Preston at Carnduff, Saskatchewan, 5 December 1991. Photo by Dalton Preston.

Published by the Canadian Plains Research Center, University of Regina. Printed by Merit Printing, Regina, Saskatchewan.

THIS ORGANIZATION RECEIVES FUNDING FROM



# Blue Jay

Vol. 50 No. 4	December 1992	201-256
---------------	---------------	---------

## Conservation

DOES THE LABELLING RESTRICTION ON CARBOFURAN CONTAINERS HELP PROTECT BURROWING OWLS? <i>Deanna Trowsdale Mutafov</i> .....	201
---	-----

## Plants

FIRST RECORD OF BLACK HENBANE AT LEADER. <i>Daisy D. Meyers</i> .....	204
---	-----

## Insects

CHECK-LIST OF SASKATCHEWAN MOTHS PART 10: FALCONERS, PINIONS, SALLOWS, AND SWORDGRASS MOTHS. <i>Ronald F. Hooper</i> .....	205
---	-----

## Birds

COMMON NIGHTHAWKS IN SASKATOON. <i>Jim Wedgwood</i> .....	211
BLACK RAILS IN REGINA – AN INCREDIBLE HYPOTHETICAL. <i>Frank Brazier</i> .....	218
THE WHITE-THROATED SPARROW THAT STAYED. <i>Velma Spizawka</i> .....	220
OUR FIRST ORCHARD ORIOLE. <i>Flossie Bogdan</i> .....	222
BALD EAGLES STEAL FISH FROM RIVER OTTERS. <i>Peter Taylor</i> .....	223
BELOW AVERAGE WHOOPING CRANE PRODUCTION IN WOOD BUFFALO NATIONAL PARK DURING DROUGHT YEARS 1990 AND 1991. <i>Ernie Kuyt, Samuel J. Barry, and Brian W. Johns</i> .....	225

## Nature Library

WOMAN BY THE SHORE AND OTHER POEMS. <i>Reviewed by Jeanie Wagner</i> .....	230
BIRDS OF EAST-CENTRAL SASKATCHEWAN – KELVINGTON TO KELSEY TRAIL .....	231

## Letters

HAWK ATTACK. <i>Jeremy Baumbach</i> .....	233
ALBINO GRAY SQUIRREL IN OHIO. <i>Ken Pivnick</i> .....	234

## Society News

RESULTS OF THE 1992 SNHS MEMBERS AND NON-MEMBERS SURVEYS. <i>Paul C. James and Curt Schroeder</i> .....	235
SNHS 1992 ANNUAL GENERAL MEETING .....	238

## Memoriam

SYLVIA VAN BRIENEN (HARRISON) - AN EXTRAORDINARY NATURALIST. <i>Jim Jowsey</i> .....	244
---	-----

Index to Volume 50, 1992 .....	245
--------------------------------	-----

## Notices

CHRISTMAS BIRD AND MAMMAL COUNTS – 1992 .....	ii
ERRATA.....	ii

# CHRISTMAS BIRD AND MAMMAL COUNTS – 1992

The dates for conducting Christmas Bird and Mammal Counts this year are 17 December 1992 to 3 January 1993 inclusive. Count area should be a circle 24 km (15 mi.) in diameter. Counts must be a minimum of three hours in duration. Count forms will be mailed in early December to all count compilers who have submitted counts in any of the past three years. Anyone wishing to initiate a new count should contact:

Wayne C. Harris  
Box 414  
Raymore, Saskatchewan  
S0A 3J0  
Telephone (306) 746-4544 (answering machine)  
Fax (306) 746-4519

All counts must be submitted to Wayne by 10 January 1993 to be included in the compilation schedule to appear in the March 1993 *Blue Jay*.

---

## ERRATA

---

The following corrections are needed in Don Hooper's article in the June 1992 *Blue Jay* entitled "Turtles, Snakes and Salamanders of East-Central Saskatchewan" (pp. 72-77):

1. Paragraph three on page 73 should read that Gray Salamanders are rare from Greenwater Provincial Park northeastward (not northwestward).
2. Under turtle sightings north of Canora (page 73), it should read that a visitor to the park reported sighting one turtle to naturalist Jane Gallagher. Jane herself did not see the turtle.
3. On pages 73 and 75, there are references to Kinloch as a town, but in fact, Kinloch was never a town but formerly a school district, with a store and post office.

One correction should be noted for Ron Hooper's article entitled "A New Skipper for Saskatchewan." It appeared on pages 70-71 in the June 1992 issue of *Blue Jay*. The final sentence of the second last paragraph should read: "The underside of the hind wing of the Roadside Skipper has a greyish-violet tinge on the outer half. It never has a definite band right across the wing."





# DOES THE LABELLING RESTRICTION ON CARBOFURAN CONTAINERS HELP PROTECT BURROWING OWLS?

DEANNA TROWSDALE MUTAFOV, 231 Hastings Crescent, Regina, Saskatchewan. S4T 7N8

**Introduction** The Burrowing Owl is designated as a threatened species by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).<sup>3</sup> The current 1992 population counts from the private stewardship program Operation Burrowing Owl indicate that numbers are continuing to decline rapidly. If conditions causing the decline are not reversed, the Burrowing Owl is likely to become endangered. The reasons for its decline are uncertain but habitat loss, pesticide spraying, vehicle collisions, and natural predation have been documented.

The Burrowing Owl nests in badger, fox, or gopher burrows on pastures, road sides and even in cultivated fields. Its diet consists of small rodents and insects, primarily grasshoppers. Therefore, due to the nesting and diet requirements of the Burrowing Owl, this species is potentially susceptible to sprays meant for grasshopper control. In years of high grasshopper infestations, the spraying of insecticides increases dramatically.

In 1986, a study was carried out to determine the impact of several commercial pesticide sprays, including Carbofuran (Furadan 480F), on the reproductive success of Burrowing Owls in Saskatchewan.<sup>2</sup> Carbofuran

is an insecticide used primarily for grasshopper control. The mechanism of toxic action of this chemical is the inhibition of the enzyme acetylcholinesterase, activity of which is essential for nervous system function in insects, birds and mammals. It was shown that when Carbofuran was sprayed over nest burrows, it had a significant impact on the survival and reproductive success of Burrowing Owls. In fact, according to the study, burrows sprayed directly with Carbofuran showed an 83 percent reduction in the number of young and an 82 percent reduction in nest success. In several instances, adult owls were sprayed with Carbofuran and low site re-occupancy was recorded the following year.<sup>1,2</sup>

From the results of the study, it was recommended that the use of Carbofuran be suspended in the breeding range of the Burrowing Owl. A second option was to make mandatory buffer zones for spraying around Burrowing Owl nest sites. Through compromise, a restriction was established by Agriculture Canada in 1989 which prohibits the use of Carbofuran within 250 m of Burrowing Owl nests. This action was implemented as a supplementary label on the Carbofuran container. The restriction was also advertised through various communication

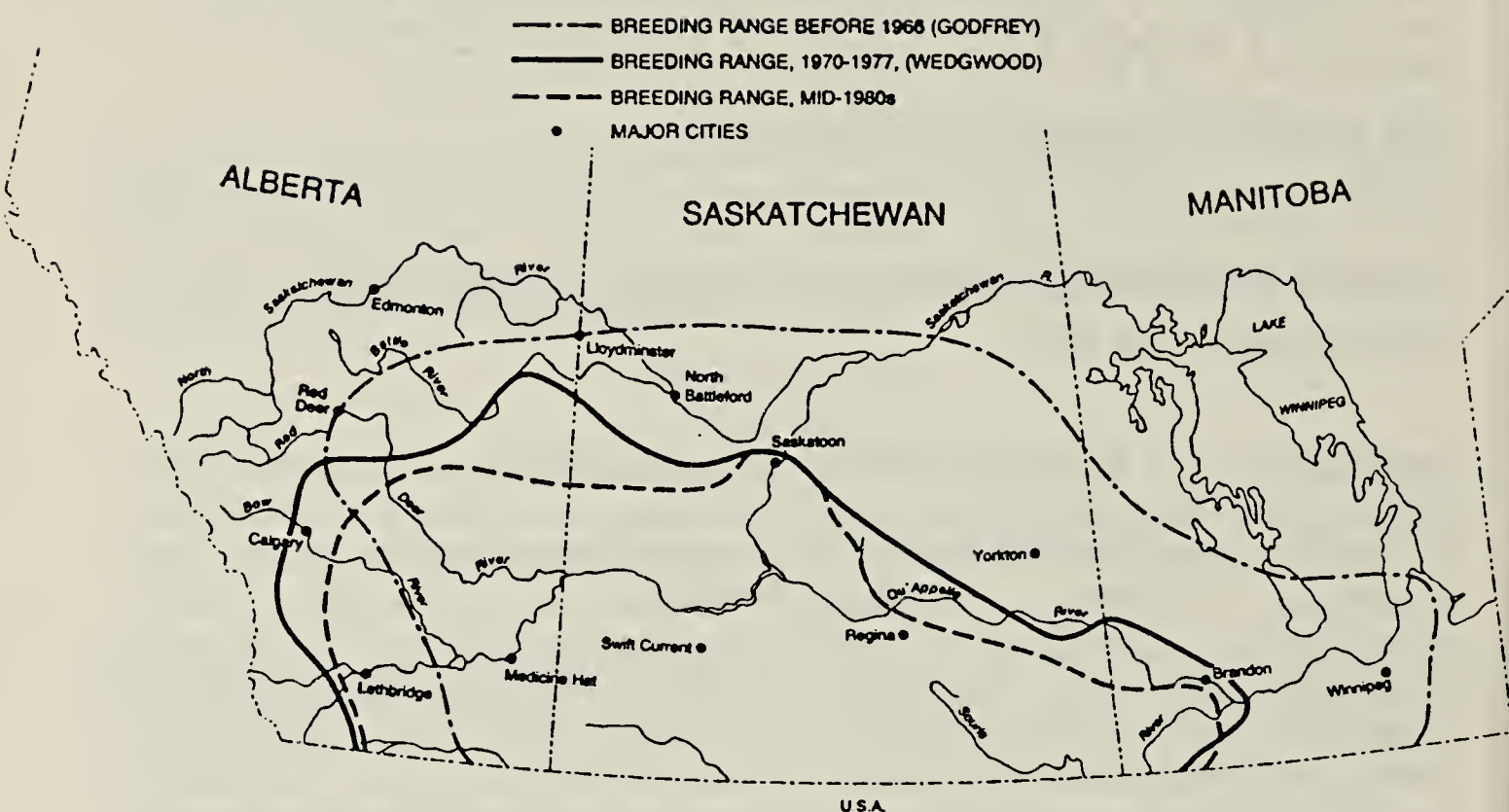


Figure 1. Burrowing Owl Breeding Range in the Prairie Provinces.<sup>2</sup>

channels such as radio, television, newspaper, mail and agricultural dealerships. However, the effectiveness of this labelling and advertising had not been evaluated up to this point.

**Methods and Results** A product user awareness questionnaire on the insecticide Carbofuran was conducted by telephone during the months of October and November 1991. A random stratified sample of 100 Saskatchewan landowners within the current range of the Burrowing Owl was used to conduct the survey (Figure 1). These landowners were not Operation Burrowing Owl members. Land locations, including the quarter, section, township, range and meridian, were chosen by using a random numbers table. The survey questions were used to assess the usage of Carbofuran and its labelling restrictions with respect to the

Burrowing Owl. Questions also included were those assessing general knowledge of the Burrowing Owl. Following are the results of the survey.

From the 100 landowners contacted, 35 had used Carbofuran at some time in the previous five years. Two had used it for all of the five years. Sixteen had used it during the two years when the restriction was widely publicized. Almost all Carbofuran users sprayed for grasshoppers with only a few using it for flea beetles.

Of the 100 respondents, 82 were familiar with Burrowing Owls, and 62 were familiar with the program Operation Burrowing Owl. Sixty-two could identify a Burrowing Owl, and 18 knew of Burrowing Owls in their fields or adjacent to their fields in 1991. On a more sombre note, not



one person involved in the survey knew of the exact restriction associated with the application of Carbofuran with respect to the Burrowing Owl, although 31 were partly aware of some restriction, or of the toxicity associated with Carbofuran.

Of the 35 landowners who had used Carbofuran in the previous five years, 83 percent were familiar with Burrowing Owls; 74 percent had heard of Operation Burrowing Owl; 71 percent could identify a Burrowing Owl, and 43 percent have, or once had, Burrowing Owls on their property. However, only 6 percent of the 35 Carbofuran users could recall looking at the current label restriction on the container but could not remember the exact restriction. Only 4 percent of the users were partly aware of any risks to the Burrowing Owl from Carbofuran and only 26 percent said that they recalled some form of advertising on the Carbofuran restriction.

**Discussion** It is obvious from the results of the survey that there is a good general awareness of the Burrowing Owl in southern Saskatchewan. Due to the program Operation Burrowing Owl, many landowners are aware that the Burrowing Owl is facing serious threats to its survival. Also apparent, however, is the general lack of awareness on the use of Carbofuran with respect to the Burrowing Owl. The restriction had been in effect for two years at the time of the survey, and had been very well publicized through various channels. Yet not one of the randomly chosen landowners knew of the exact restriction. Very few of the Carbofuran users appeared to be knowledgeable about the risks that this insecticide posed to the Burrowing Owl or to wildlife in general.

Although a small random sample size was used for the survey, the results indicate an underlying problem with the level of public awareness of the insecticide Carbofuran and its effects on the Burrowing Owl.

Although not the only factor having an impact on the survival of the Burrowing Owl, Carbofuran certainly appears to pose a greater risk than other insecticides do to this species.<sup>1,2</sup> Fox emphasizes that it is very important that landowners and managers are made aware of the hazards that Carbofuran and other insecticides pose on this bird. The results of this survey show that many landowners are still not aware of these hazards. It is therefore concluded that the current labelling restriction is ineffective. The Saskatchewan Natural History Society calls for a re-evaluation of this labelling restriction and for further consideration to be given to the removal of this chemical from the market.

The complete report on this study is available from Dale Hjertaas (787-2892).

Appreciation is extended to Paul C. James, Dale Hjertaas and Carol Bjorklund.

1. FOX, G.A., and P.C. JAMES. 1987. Effects of some insecticides on productivity of Burrowing Owls. *Blue Jay* 45:65-71.
2. FOX, G.A., P. MINEAU and P.C. JAMES. 1989. Technical report series no. 72. Canadian Wildlife Service, Ottawa.
3. WEDGWOOD, J.A. 1978. Status report on Burrowing Owls in Canada. Canadian Wildlife Service for Committee on the Status of Endangered Species in Canada, Saskatoon.





## FIRST RECORD OF BLACK HENBANE AT LEADER

DAISY D. MEYERS, Box 218, Leader, Saskatchewan. S0N 1H0

On 2 June 1992, I photographed a very pretty weed growing in front of the corral at my home, half a mile north of the South Saskatchewan River and two miles east of the Leader Bridge. Several more specimens were found growing in the same location or nearby. They varied in height from one to five feet.

As I had not seen this plant here before, I made an attempt to identify it. In my copy of *Wildflowers across the Prairies*, it looked like Black Henbane (*Hyoscyamus niger*). Wanting a second opinion, I took a specimen to the Rural Service Centre in Leader. The

secretary, Cheryl Graff, searched through several books and also identified it as Black Henbane. The identification was verified by the Crop Protection Laboratory in Regina.

As Black Henbane was new to the Leader area, a specimen of the plant, including flower and seed pod, were pressed and put on file along with a picture of it. The reference file is available at the Rural Service Centre in Leader.

VANCE, F.R., J.R. JOWSEY and J.S. MCLEAN. 1991. *Wildflowers across the Prairies*. Western Producer Prairies Books, Saskatoon. 337 pp.



*Black Henbane*

*Daisy D. Meyers*



---

# INSECTS

---

## CHECK-LIST OF SASKATCHEWAN MOTHS

### PART 10: FALCONERS, PINIONS, SALLOWS, AND SWORDGRASS MOTHS

RONALD R. HOOPER, Museum of Natural History, 2340 Albert Street,  
Regina, Saskatchewan. S4P 3V7

Abbreviations used: s = south, n = north, w = west, e = east, CNC = the only known Saskatchewan records of this species that we know are in the Canadian National Collection in Ottawa. (Unless otherwise indicated all the species are represented in the collection of the Saskatchewan Museum of Natural History, Regina.)

#### Falconers, Pinions, Sallows and Swordgrass Moths (Cucullinae)

This subfamily contains many Owlet Moths which have been called "winter moths" because they fly late in the fall and/or early in the spring. Many of them overwinter in the adult stage. Many of the Cucullinae have the lower, outer corners of the forewings on a broad obtuse angle, looking like they had been trimmed off. The eyes are bald and have both upper and lower lashes.

Many of the moths in this sub-family feed on trees and shrubs.

#### Falconers

Alberta Falconer – *Cucullia omissa* (Dod.) – Kamsack, Jan Lake and Saskatoon.

Albicinerea Falconer – *Rancora albicinerea* (Sm.) – Saskatoon (National Research Council Collection).

Asteroid – *Cucullia asteroides* (Gn.) – Saskatoon, Oxbow and Cumberland House.

Brown-bordered Cucullia – *Cucullia convexipennis* (G. & R.) – s arm of Last Mountain Lake (CNC).

Florea Falconer – *Cucullia florea* (Gn.) – Saskatoon (CNC) and Harlan (ne of Lloydminster) (CNC).

Intermediate Falconer – *Cucullia intermedia* (Speyer) – s Saskatchewan, n to Aylsham.

Laetifica Falconer – *Cucullia laetifica* (Lint.) – Val Marie (CNC).

Montana Falconer – *Cucullia montanae* (Grt.) – Moose Jaw, Saskatoon and Swift Current.

Postera Falconer – *Cucullia postera* (Gn.) – s Saskatchewan, n to Love.

Small Falconer – *Copicucullia antipoda* (Stkr.) – Rockglen and Val Marie.





*Intermediate Falconer*

Keith Roney

Speyer's Falconer – *Cucullia speyeri* (Lint.) – s Saskatchewan, n to Aylsham.

White Falconer - *Nycterophaeta luna* (Morr.) - Saskatoon, Swift Current, Rutland (CNC), s arm of Last Mountain Lake (CNC) and Cypress Hills (CNC).

### Pinions

Beech Pinion – *Lithophane fagina* (Morr.) – Fort Qu'Appelle, Somme, Shoal Lake and Cypress Hills.

Bethune's Pinion – *Lithophane bethunei* (G. & R.) – Fort Qu'Appelle, Saskatoon, Nipawin area, and Candle Lake.

Black-spotted Pinion – *Lithophane laticinerea* (Grt.) – s Saskatchewan, n to Shoal Lake.

Disposita Pinion – *Lithophane disposita* (Morr.) – Aylsham.

Distant Pinion – *Lithophane amanda* (Sm.) – s Saskatchewan, n to Aylsham and Green Lake area.

Dowdy Pinion – *Lithophane unimoda* (Lint.) – Fort Qu'Appelle, Saskatoon and Bainbridge (n of Hudson Bay).

Large Grey Pinion – *Lithophane georgii* (Grt.) – s Saskatchewan, n to Aylsham.

Nameless Pinion – *Lithophane innominata* (Sm.) – central Saskatchewan, n to Red Earth; s to Fort Qu'Appelle.

Paxata Pinion – *Lithophane lepida* (Grt.) – Saskatoon (CNC).

Thaxter's Pinion – *Lithophane thaxteri* (Grt.) – Nipawin Provincial Forest, Love, Prince Albert area and Green Lake area.

Wanton Pinion – *Lithophane petulca* (Grt.) – Moosomin area and Prince Albert area (Forest Insect Survey).





*Regina Beauty*

Keith Roney

## Sallows

Purple Apharetra – *Apharetra purpurea* (McD.) – Weekes, Prince Albert, La Ronge and Davin Lake.

Pyrallis Apharetra – *Apharetra pyralis* (Sm.) – reported for Saskatchewan by D. LaFontaine.

Black-banded Arctic – *Sympistis funesta* (Paykull) – Patterson Lake (ne corner of Saskatchewan).

Black-edged Arctic – *Sympistis melaleuca* (Thunb.) – Hasbala Lake and Patterson Lake (ne corner of Saskatchewan).

Labrador Arctic – *Sympistis zetterstedti* (Stgr.) – reported for Saskatchewan by Forbes.

Augustus Beauty – *Oncocnemis augustus* (Harv.) – Saskatoon, Bateman (CNC), Swift Current and Eastend (CNC).

Balteata Beauty – *Oncocnemis*

*balteata* (Sm.) – Stewart Valley (CNC).

Black-banded Beauty – *Oncocnemis piffardi* (Wlk.) – Indian Head, Earl Grey, Saskatoon and Cypress Hills.

Crustarian Beauty – *Pseudacontia crustaria* (Morr.) – Saskatchewan Landing.

Delicate Beauty – *Oncocnemis cibalis* (Grt.) – s Saskatchewan, n to Aylsham.

Figured Beauty – *Oncocnemis figurata* (Harv.) – Saskatoon, Tompkins and Estuary.

Grey Beauty – *Oncocnemis chandleri* (Grt.) – s Saskatchewan, n to Quinton and Saskatoon.

Harrow Moth – *Oncocnemis occata* (Grt.) – Rosefield (se of Val Marie) and Eastend.

Haye's Beauty – *Oncocnemis hayesi* (Grt.) – Estevan (CNC).





American Swordgrass

Keith Roney

Lepipuloides Beauty – *Oncocnemis lepipoloides* (McD.) – Saskatoon and Swift Current.

Mackie's Beauty – *Oncocnemis mackiei* (B. & Benj.) – s Saskatchewan, n to Saskatoon.

Regina Beauty – *Oncocnemis regina* (Sm.) – Fort Qu'Appelle, Roche Percee, Estevan, Scout Lake and Eastend.

Riparian Beauty – *Oncocnemis riparia* (Morr.) – Saskatoon and Swift Current.

Smooth Beauty – *Oncocnemis levis* (Grt.) – s Saskatchewan, n to Fort Qu'Appelle and Saskatoon.

Viriditincta Beauty – *Oncocnemis viriditincta* (Sm.) – Saskatoon, Swift Current and Indian Head (CNC).

White-banded Beauty – *Oncocnemis albifasciata* (Hamp.) – Killdeer, Swift Current and Eastend.

Raspberry Climbing Cutworm –

*Fishia evelina* (French) – Saskatoon (National Research Council Collection).

Garden Cutworm – *Fishia discors* (Grt.) – s Saskatchewan, n to Saskatoon.

Grey Fishia – *Fishia instruta* (Sm.) – Fort Qu'Appelle and Saskatoon.

American Peasant – *Lithomoia solidaginis* (Hdn.) – s Saskatchewan, n to Sturgeon Landing.

Black-disc Peasant – *Brachylomia discinigra* (Wlk.) – Tantallon.

Cloaked Peasant – *Brachylomia populi* (Stkr.) – reported for the Prairie Provinces by Ives and Wong.

Dark Grey Peasant – *Litholomia napaea* (Morr.) – s Saskatchewan, n to Cumberland House.

Willow Peasant – *Brachylomia algens* (Grt.) – s Saskatchewan, n to Aylsham.



Acadian Rover – *Xylotype acadia* (B. & Benj.) – Cypress Hills and Battleford.

Alberta Rover – *Mniotype versuta* (Sm.) – throughout Saskatchewan.

Iris Rover – *Hillia iris* (Zett.) – s Saskatchewan, n to Red Earth.

Miniota Rover – *Mniotype miniota* (Sm.) – s Saskatchewan, n to Love and Clearwater River.

Oblique Rover – *Pleromelloida obliquata* (Sm.) – s Saskatchewan, n to Saskatoon and Harlan (ne of Lloydminster).

Rugged Rover – *Platypolia anceps* (Steph.) – Fort Qu'Appelle, Cumberland House and Sturgeon Landing.

Barred Sallow – *Xanthia togata* (Esp.) – s Saskatchewan, n to Red Earth and Canwood.

Bicolored Sallow – *Sunira bicolorago* (Gn.) – s Saskatchewan, n to Cumberland House.

Branded Sallow – *Eupsilia tristigmata* (Grt.) – s Saskatchewan, n to Aylsham and Green lake area.

Broad-lined Sallow – *Homohadena infixa* (Wlk.) – s Saskatchewan, n to Aylsham.

Brown Sallow – *Homohadena stabilis* (Sm.) – s Saskatchewan, n to Aylsham.

Brown-lined Sallow – *Homohadena badistriga* (Grt.) – s Saskatchewan, n to Otter Rapids.

Comstock's Sallow – *Feralia comstocki* (Grt.) – Somme and Bjorkdale

Dusky Sallow – *Anathix puta* (G. & R.) – s Saskatchewan, n to Otter Rapids.

Francelemont's Sallow – *Eupsilia cirripalea* (Franc.) – Fort Qu'Appelle

and Ile-a-la-Crosse.

Fringe Tree Sallow – *Aditachionanthi* (J. E. Smith) – s Saskatchewan, n to Fort Esperance, Fort Qu'Appelle and Saskatoon.

Goat Sallow – *Homoglaea hircina* (Morr.) – s Saskatchewan, n to La Ronge.

Grote's Sallow – *Copivaleria grotei* (Morr.) – Fort Qu'Appelle, Buffalo Pound Provincial Park and Saskatoon.

Jocose Sallow – *Feralia jocosa* (Gn.) – central Saskatchewan, n to Stanley area, s to Kamsack area and St. Louis.

Many-lined Sallow – *Eupsilia devia* (Grt.) – Kamsack and Somme.

Northern Sallow – *Brachionycha borealis* (Sm.) – Indian Head (CNC).

Pale Sallow – *Anathix aggressa* (Sm.) – Fort Qu'Appelle, Somme and Aylsham.

Private Sallow – *Sutyna privata* (Wlk.) – Shoal Lake.

Profound Sallow – *Sutyna profunda* (Sm.) – s Saskatchewan, n to Prince Albert.

Sidus Sallow – *Eupsilia sidus* (Gn.) – Saskatoon (Department of Agriculture Collection).

Sloping Sallow – *Epiglaea decliva* (Grt.) – Fort Qu'Appelle and Saskatoon.

Spotted Sallow – *Eucirroedia pampina* (Gn.) – s Saskatchewan, n to Sturgeon Landing.

Straight-toothed Sallow – *Eupsilia vinulenta* (Grt.) – Fort Qu'Appelle and Saskatoon.

Western Sallow – *Sunira verberata* (Sm.) – Fort Qu'Appelle, Lestock and Buffalo Pound.



## Swordgrass Moths

American Swordgrass – *Xylena nupera* (Lint.) – s Saskatchewan, n to Sturgeon Landing.

Dot and Dash Swordgrass – *Xylena curvimacula* (Morr.) – s Saskatchewan, n to Bainbridge (n of Hudson Bay), and Aylsham.

Grey Swordgrass – *Xylena thoracica* (Putnam – Cramer) – Saskatoon (National Research Council Collection) and Harlan (ne of Lloydminster).

Western Swordgrass – *Xylena cineritia* (Grt.) – s Saskatchewan, n to Aylsham.

## Expected Species

Colorado Beauty – *Oncocnemis colorado* (Sm.) – n to Malta, Montana.

Day's Beauty – *Oncocnemis dayi* (Grt.) – n to Havre, Montana.

Iris-coloured Beauty – *Oncocnemis iricolor* (Sm.) – Colorado, ne to Aweme, Manitoba.

Sanina Beauty – *Oncocnemis sanina* (Sm.) – n to Aweme, Manitoba, and Lethbridge, Alberta.

Saunder's Beauty – *Oncocnemis saundersiana* (Grt.) – w to Aweme, Manitoba.

Simplex Beauty – *Oncocnemis simplex* (Sm.) – e to Malta, Montana (CNC).

Smith's Cerapoda – *Cerapoda stylata* (Sm.) – n to Malta, Montana.

Similar Falconer – *Cucullia similaris* (Sm.) – n to Malta, Montana, and Didsbury, Alberta.

Dark Fishia – *Fishia enthea* (Grt.) – Nova Scotia w to Alberta.

Yosemite Fishia – *Fishia yosemitae* (Grt.) – e to Havre, Montana.

Variegated Peasant – *Epidemas melanographa* (Hamp.) – n to Medicine Hat, Alberta.

Iron Pinion – *Lithophane ferrealis* (Grt.) – across Canada from New Brunswick to British Columbia.

Discolored Rover – *Lomilysis discolor* (Sm.) – n to Aweme, Manitoba.

Fervid Rover – *Mniotype fervida* (Sm.) – n to Aweme, Manitoba.

Silky Sallow – *Chaetagnaea sericea* (Morr.) – w to Aweme, Manitoba. Reported in error for Fort Qu'Appelle, Saskatchewan.

Smudged Sallow – *Homoglaea carbonaria* (Harv.) – Colorado, n to Aweme, Manitoba, and Lethbridge, Alberta.

Unsated Sallow – *Metaxagnaea inulta* (Grt.) – w to Miniota, Manitoba.

BARNES, W.M. and F.H. BENJAMIN. 1924. The North American and Greenland species of *Simpistis* (Lepidoptera). *Canadian Entomologist* 56:212-215.

DOD, F.H. WOLLEY. 1916. Noctuid notes from western Canada, with description of two new species and a variety. *Canadian Entomologist* 48:58-70.

FORBES, WILLIAM, T.M. 1954. *Lepidoptera* of New York and neighbouring states. *Noctuidae* (Part III). Cornell University Agricultural Experiment Station, Ithaca, New York. Mem. 329.

MCDUNNOUGH, J. 1922. Some apparently undescribed *Noctuidae*. *Canadian Entomologist* 54:236-238.

———. 1940. Undescribed species and races of *Phalaenidae*. *Canadian Entomologist* 72:191-201.

PRENTICE, R.M., compiler. 1962. *Forest Lepidoptera* of Canada. Vol. 2. Canada Department of Forestry, Ottawa. Bull. 128.



## COMMON NIGHTHAWKS IN SASKATOON

JIM WEDGWOOD, 610 Leslie Avenue, Saskatoon, Saskatchewan. S7H 2Z2

In 1971, nighthawks seemed to be everywhere around Saskatoon. At dusk on most summer evenings our neighbourhood male was overhead, giving his distinctive *peent* call and making his booming dives. That year my wife, Shirley, and I counted Common Nighthawks and estimated that there were 48 males in Saskatoon. By 1981 the birds had become uncommon and a partial repeat of the earlier count yielded only seven males. In 1989, I never heard a nighthawk and received only two reports of them in the city.

As a result, in 1990, another survey was made, this time with assistance. The goals were: a better estimate of the population, a preliminary assessment of possible local causes of the decline and some idea of the status of nighthawks in Saskatchewan cities.

**Procedure** To find nighthawks, advantage was taken of two of their characteristics: in cities, they commonly nest on flat gravelled roofs and the males give their distinctive *peent* calls, generally at dusk while flying about their home ranges. The count method adopted was mainly the same as used in 1971 and described in my article on that earlier survey, which in turn had been patterned on a study in Detroit.<sup>9,2</sup>

The study area excluded the air-

50(4). December 1992

port and undeveloped lands, but included Field A (see map in my previous article).<sup>9</sup> The study area was 107.3 sq km of the 139.7 sq km within the city limits and was divided into 20 sectors, Field A being one of them. Field A, an odd-shaped, largely unbroken, stony 158-ha parcel of fescue prairie, was natural nighthawk habitat (its south end is the Silver-spring prairie the Saskatoon Natural History Society and others seek to preserve).

Where possible, sector boundaries were located along major dividers such as the river, railways and freeways. Arterial streets with concentrations of flat-roofed buildings also served as sector boundaries, increasing coverage of places where birds were likely to be. Flat-roofed buildings occurred in concentrations (downtown), as integrated structures (malls), in groups (at some primary intersections), as the dominant building type in some open areas (older industrial tracts, campuses), and as isolated structures in residential areas (schools, apartments). Gravelled roofs could be found on practically any class of building, but were least common on residential and industrial structures.

The observer assigned to a sector made at least two counts, spaced at least five days apart between 15 June and 25 July. Counts began 30





*Common Nighthawk on nest*

*Frank A. Switzer*

minutes before sunset and continued for an hour afterwards. The observer chose a route to come within two or three blocks of flat roofs, starting and finishing where they were most numerous, again to increase coverage. He or she stopped every two to four blocks in likely places for three minutes, listening for *peent* calls and scanning the sky. Upon detecting a male, an attempt was made to trace its path on a map and thus delineate its home range, at the same time listening for any neighbouring birds.

The procedure in 1990 differed in three major ways from 1971's. First, more observers allowed for better coverage. Second, as in 1971, the start was delayed until practically all home ranges could be established, but counts were terminated sooner, on 25 July, because we had found that home ranges were breaking up by the end of July. Third, observers individually selected the evenings for

counting, as the system used in 1971 no longer worked. Then, our neighbourhood male *peent*-ing at length was our signal of a prospective good evening for nighthawk hunting. By 1990, however, there were too few birds in districts where most observers resided for this system to work.

The population estimate was made using records of isolated males, the traces of the birds' flight paths which sufficiently outlined home ranges, or when two males were observed at the same time. In the other instances, for example, at the boundary between two districts where more than one male might be present, an estimating technique had to be applied.<sup>9</sup>

**Count Results** Twenty observers spent an average of 2.8 evenings each, making a total of 56 counts and garnering 35 observations of



peent's, booming-dive displays and sightings. An observer usually reported any nighthawks encountered even when not actually on a count. Other persons also reported sightings. As in 1971, both these kinds of incidental records, totalling 33 observations, were included with count observations, yielding 68 records in all. Analysis of them indicated a conservative estimate of 28 males present in Saskatoon during 1990.

Most – 31 – observations occurred between sunset and an hour and a quarter afterwards, peak incidence following sunset by 30 to 45 minutes (10:00-10:15 p.m. local time). Observations were most frequent from 23 to 27 June with 20 reported and 7 and 8 July with six (1.50 and 0.70 males per count). Three incidental reports of flying birds were made between 2:45 and 4:00 a.m.

An aside: two nests were reported, one on a hospital roof, the other on a pile of brick rubble in an industrial yard (Alvena Schnell, pers. comm.; fide Lloyd Saul). The female's loud hissing when a watchdog passed by drew attention to the latter.

## ANALYSIS

**Population** The estimated decline in male numbers since 1971 was 42 percent. Because the study area had grown by 57 percent in the interval, change in density is a more meaningful measure. The estimate in 1971 was one male per 1.4 sq km of study area, in 1990 one per 3.8 sq km, a third as much. Field A in the city's northeastern outskirts was thought to serve as a benchmark. Its nighthawk history: five males in 1971, four in 1981 and a mere one or possibly two in 1990. Being more rural than urban, this trend may be indicative of the situation in the surrounding

50(4). December 1992

region, wherever suitable habitat remains.

This was not an extraordinary drop. Normal fluctuations are often greater, especially regionally.<sup>7</sup> Indications are, however, that the decline in nighthawk numbers had been long term and general in the mid-continent, and the species was on *American Birds* Blue List by 1976.<sup>1</sup> Our partial survey in 1981 detected only seven males, indicating most of the decline probably had taken place by then. Though we did not cover the entire city, that survey did include 1971's hot spots and entailed 127 stops in 135 km of driving on eight evenings between 3 and 14 July. The initial comment from most persons asked to help with the 1990 study was that nighthawks had been scarce for years.

The trouble with the present method is that we have only snapshots, because, though providing insights, the surveys are only views of two years in isolation. Better that each had been done for three years in a row.

Another problem is that it is not known where 1971 and 1990 fit in the species' normal population cycle of peaks and valleys, given that nighthawks have one. Steven Marsden studied the incidence of clinic admissions between 1979 and 1987 of certain traumatized wildlife.<sup>8</sup> He found the data were suggestive of a three-year cycle for the Common Nighthawk, there having been influxes of injured birds in 1979, 1982 and 1985. To have been able to relate our results to a known cycle would have been useful. Unfortunately, data for the prior and following years are not available.

Though trends in other cities have



Table 1: OCCUPANCIES BY ZONE

	1971 (%)	1990 (%)
Residential/commercial/institutional	44	54
Downtown commercial	29	30
Industrial	17	36
Field A (natural)	10	7

been downward according to residents contacted, levels appeared to vary. For 1990, Melfort reported no birds, Moose Jaw one and Prince Albert two. North Battleford noted seven birds downtown and Weyburn five of seven, both higher densities than in Saskatoon. There was too little data for an overall comparison of Regina and Saskatoon; as in Saskatoon, only one bird was observed in Regina's downtown area (Jon Triffio, pers. comm.).

**Distribution** Between 1971 and 1990, a major change occurred in the distribution of Saskatoon nighthawks. Numbers were down in all zones, except for the industrial one. The extreme was the downtown (commercial zone) area which harboured 16 males in 1971, but had just one in 1990. There was no obvious explanation. A few birds must travel farther for some of their feeding, face greater predation risks and find traditional gravelled roofing disappearing, yet these same factors applied in North Battleford and Weyburn where significant downtown occupancies still occurred.

Saskatoon's big, north industrial district was relatively unchanged at four home ranges compared to five previously and the airport industrial district had the only increase, to four from one. These two in combination with three other industrial tracts resulted in the city's industrial zoning having the second largest fraction of the nighthawk population.

Redistribution in residential areas included abandonment of several isolated sites. This meant some suburbs had lost their neighbourhood nighthawks, thus creating the impression of a population even smaller than it proved to be. Male nighthawk occupancies by zones are shown in Table 1.

Twenty-two home ranges were in, overlapped, or near, open places, that is developed areas with large amounts of land not built upon, such as rights-of-way, landscaped expanses, industrial tracts, river banks and remnants of the Hudson Bay Sloughs. Use of these areas by nighthawks may have been for food or in some cases for nest sites (there are four records of nests on the ground in Saskatoon, 1964-1990).

The large expanse of gravelled roofing notwithstanding, no birds were reported at any of the major shopping centres. Despite the decline in numbers, 7 of the 28 ranges were on lands developed since 1971 and 14 were in the same locations as before — females often reuse previous years' nest sites.<sup>3</sup>

**Behaviour** Experience in 1971 had shown that there was considerable variation in the frequency and duration of *peent*-ing episodes. More than once, we discovered our neighbourhood bird would be silent while downtown birds were calling continuously for 15 to 30 minutes. From this and other instances, we



suspected that the lower the density, the less the *peent*-ing. Our experience in 1990 certainly bore this out. With the frequency and duration of calls at lower levels and the calling period foreshortened, the effectiveness of using a survey method based on *peent*-ing characteristics was reduced. At times, despite repeat visits, failure to obtain completely satisfactory traces of the bird's path (because he did not *peent* often or long enough) was frustrating. A modified or alternative technique might have served better.

Unexpectedly, no nighthawks were reported between 12 July and the end of the survey on 25 July. Yet, in this latter part of the breeding season, 17 counts were conducted in 13 districts including seven in which birds had been heard on previous visits. In comparison, in 1971, *peent*'s were heard throughout July and 1 August's 21 observations of 15 birds was the season's high. For a few pairs to have abandoned their ranges early would not be unusual, but for most, if not all, to fall silent is perplexing. I suspect that this absence of *peent*'s may have been due to the lower densities and nest predation. That is, a reaction similar to the current behaviour of local robins, which, now fewer and subjected to successive losses of nestlings to crows, sing less.

Only one other urban nighthawk survey repeated after a passage of years is known. A walking, circular 3.33 km transect of downtown Kitchener, Ontario, was performed in 1971 and repeated three times, the last being 1986.<sup>10</sup> The results indicated the population had remained stable. The procedure was similar to Saskatoon's, except for the number of counts and use of transects rather than area coverage. Striking was the

50(4). December 1992

great variation in numbers of birds seen per count in a given year, a low of three, a high of 12, suggesting similarity with the variable behaviour experienced in Saskatoon in 1990.

**Questions about the decline** No doubt, the mid-continent drop in numbers is a dominant factor in the decline of the Common Nighthawk in Saskatoon.<sup>1</sup> During discussions about the study, however, possible contributory causes were suggested, including nest site preference, competition for food, the mosquito control program, physical status of roofing, predation and food resources.

Nesting on city roofs in the United States followed shortly after the introduction, 150 years ago, of tar and gravel roofing for flat roofs.<sup>2</sup> However, whether this represented an overflow of birds from the countryside, or a preference for the artificial site is unknown. Recently in the Okanagan, Brigham found flat gravel roofs were not preferred roost or nest sites and he suggested a variety of factors may underlie the choice.<sup>4</sup> Although data are meagre, the indication from the numbers of nighthawks using Field A (natural nest sites), which in two decades decreased relatively more than elsewhere within the city (mostly artificial sites), was that roofs are preferred.

With both Big Brown and Little Brown Bats occurring in Saskatoon, survey observers were asked to note any sightings of them (Phil Taylor, pers. comm.). Four reported sites and two other known occupancies made six in all, though none contained significant numbers. Known colonies surrounding the city were all small. Marked competition for night-flying insects is unlikely.

Since 1984, the city has sprayed a larvicide specific to the mosquito on stagnant water bodies in a three-to-



five-km belt surrounding the city. Spraying is from April through August to catch successive hatches, but is variable and depends on moisture conditions. It started on 11 July in 1990 (Tom McMurtry, pers. comm.). Of other cities contacted, only Prince Albert and North Battleford were without mosquito control measures. However, whether the current mosquito control program has any effect on urban-dwelling nighthawks is a matter for investigation. In the United States, the bird has been reported to consume quantities of mosquitoes as part of a diet that includes a wide variety of mainly night-flying insects.<sup>3</sup> In the Okanagan Valley, recent studies showed that, although they were present, the smaller night-flying insects were not taken by nighthawks, the normal feeding mechanics of which, it is suggested, are unsuitable for taking smaller insects.<sup>5</sup>

Traditional asphalt and gravel roofing used pea gravel (64 to 127 mm in size) as ballast, or top dressing, and this presented a sufficient simulation for nighthawks. They laid their eggs directly on the flat ballast with no nest material or scrape. By the late 1970s, it was becoming common practice to apply a ballast of coarse gravel or crushed rock, 190 to 380 mm or more in size (Paul Juneau and Gordon Mickelson, pers. comm.). Most new flat roofing and much re-roofing (necessary every 20 to 35 years) is now constructed this way. Further, some downtown roofs now have non-ballasted smooth finishes, surfaces only occasionally used by nighthawks.

Although flat roofs are forecasted to remain common on large structures, the use of traditional roofing on them will decrease further. In newer industrial tracts, appearances

deceive, for most flat-appearing roofs are not flat and the roofing is not gravel dressed. In general, in industrial tracts, gravelled roofs are to be found mainly on the older buildings. All this may adversely affect urban nighthawks. If the female nests on the coarser surface, her 30 mm egg may be inadequately covered by her brood patch or an egg may become lodged so she cannot rotate it for proper incubation.

Adoption of an urban elevated platform for a nest site in place of a rural patch of ground meant the bird traded one group of predators for another. Suggested as a possible predator was the crow, which was a resident of Saskatoon by 1971.<sup>6</sup> All cities reported crows as common and only Weyburn noted that the ingress of crows may have peaked. After the initial brooding period, nestling nighthawks are at risk as they are fully exposed to daytime aerial predation. The crow's manner of hunting and its predation of nestling robins, make it suspect, although there are no known reports of nestling nighthawk predation by crows.

Merlins started increasing in Saskatoon in the early 1970s, their numbers now being steady, and several persons wondered whether they preyed on Common Nighthawks. The possibility is remote. A night-hawk kill has never been recorded in several thousand remains examined during Merlin studies in the city, and there is doubt a Merlin ordinarily could take an adult nighthawk (Lynn Oliphant, pers. comm.). Since the inception of the peregrine program in 1983 at a monitored site downtown, practically no nighthawk remains have been found in the kill residue, and nighthawks are considered only incidental prey for Peregrine Falcons (Pat Thompson, pers. comm.).



**Conclusions** Repetition in 1990 of a 1971 survey showed changes in the population, distribution and behaviour of male Common Nighthawks in Saskatoon. The drop in numbers roughly mirrored changes in some other provincial centres. However, the urban population may have fared better than that in the natural areas of the surrounding region. Density decreased more than did the population and the lower density appeared to have influenced calling behaviour, which may have reduced the effectiveness of the count method. Whether behavioural changes influenced reproduction rates is unknown. Over the past two decades insecticides, changes in flat roofing and possibly predation have likely reduced the urban population of nighthawks.

I am very grateful to the following for their key roles in conducting counts: John Eond, Ron Bremner, Paul Coutu, Hartley Fredeen, Mary Gilliland, Bernie Gollop, Ron Jensen, Harv Lane, Lynn Oliphant, Frank Roy, Stan Shadick, Gordon Silver-sides, Jim Slimmon, Al Smith, Phil Taylor, Guy Wapple, Michael Williams, Gary Wobeser and Lois Wooding. I thank others who contributed incidental records: Norma Allen, Gertrude Callin, Lloyd Saul, Alvena Schnell, Robert Wapple and Jim Wood. I appreciate the cooperation of those persons and their associates who provided information about their communities: Val Andrews, Moose Jaw; Louise Cochran, North Battleford; Genny Grief, Prince Albert; Frank Brazier, Jon Triffio and Frank Switzer, Regina; and Nick Postey, Weyburn. To Frieda Markland, Melfort, is due special thanks for going the extra mile — driving into town at 4:30 a.m. to search for nighthawks. I am indebted to a number of other persons

who gave special advice, information or assistance: Glen Adams, Paul Juneau, Steve Marsden, Gord Mickelson, Tom McMurtry, Lynn Oliphant, Carol Ormiston, Ken Pivnick, Phil Taylor and Pat Thompson. I thank R. M. Brigham for his comments on a draft of this manuscript.

1. ARBIB, R.S. 1976. The Blue List for 1976. *Am. Birds* 29:1067-1072.
2. ARMSTRONG, J.T. 1965. Breeding home range in the Nighthawk and other birds; its evolutionary and ecological significance. *Ecology* 46: 619-629.
3. BENT, A.C. 1964. Life histories of North American cuckoos, goat-suckers, hummingbirds and their allies. Part I. Dover, New York. 244 pp.
4. BRIDGHAM, R.M. 1989. Roost and nest sites of Common Nighthawk. *Condor* 91:722-724.
5. ——— 1990. Prey selection of Big Brown Bats (*Eptesicus fuscus*) and Common Nighthawks (*Chordeiles minor*). *Am. Midl. Nat.* 124:73-80.
6. HOUSTON, C.S. 1977. Changing patterns of Corvidae on the prairies. *Blue Jay* 35:149-156.
7. KREBA, ROBERT. 1991. Saskatchewan birds: American birds report — Fall 1990. Saskatchewan Natural History Society. Unpubl.
8. MARSDEN, S.P. 1988. Raptor rehabilitation at the Western College of Veterinary Medicine: a case review. Unpubl.
9. WEDGWOOD, J.A. 1973. Nighthawks in the city. *Blue Jay* 31:82-88.
10. WELLER, P. 1987. Monitoring an urban population of aerial foragers. *Ontario Birds* 5:69-71.





# BLACK RAILS IN REGINA — AN INCREDIBLE HYPOTHETICAL

FRANK BRAZIER, 2657 Cameron Street, Regina, Saskatchewan. S4T 2W5

May 18, 1992, was a Monday and all of Canada was taking a holiday to celebrate Queen Victoria's birthday. It was a pleasant day, so after lunch I drove alone to Condie, then visited Brown's Slough, 3.2 km from the Condie road. I turned south and, as I reached a flooded ditch on the west side of the road, I disturbed a very small black bird which flew ahead of my car a little way before it dropped out of sight. This manoeuvre was repeated several times for the entire length of the flooded ditch (which I later paced off and found to be about 69 m). Each time the bird flew I could see that it was very small, black and the whirring wings produced a pale stripe their entire length. Although I had never seen one before, I was sure it was a Black Rail.

When the bird reached the end of the ditch, it again dropped out of sight but this time when I drove slowly forward it flew to the other side and then continued back on that side. I watched it through the rear window and noted that there was some debris where it dropped into cover finally, so I could find the spot.

I had to drive to the end of the road before I could turn and get back to the point where the bird had disappeared, an interlude of about four minutes. I shut off the engine and waited for 15 minutes, but at 2:45 p.m. there was still no sign of the bird. During my wait a Sora walked near the spot I was watching and it was evident that the Sora was much

larger than the bird I had seen. I never saw it again, so I never got a good picture of it — only a tiny black bird, the size of a small sparrow, flying away from me.

I was hoping for an independent confirmation of my identification, but I was unable to reach Robert Kreba, a staff member at the Saskatchewan Museum of Natural History (SMNH) and a knowledgeable birder. Later that afternoon I reached Fred Lahrman by telephone and described my experience of the afternoon. He said he had a copy of Bent's *Marsh Birds* and would bring it to me the next morning when we met for coffee. This he did but nowhere in it could I find a description of a flying Black Rail.<sup>1</sup>

On 21 May, Fred telephoned me to report that the Bird Alert had a notice in it that someone, unnamed, had seen a number of Black Rails near the Wascana Country Club. After I had listened to the message I got in touch with Robert Kreba and told him about it. He was unaware of it but later telephoned me to advise that the report had been made by Nels Arbinson. I called Nels, who told me that on 18 May he had been in a canoe, alone, and when he paddled under the bridge by the Country Club (locally known as Rainbow Bridge) he saw a very small, black bird with a black bill and a pattern of white feathers on the back and wings. It was foraging among the reeds. As he made no noise, Nels was able to



get quite close without alarming the bird. He continued down Wascana Creek for about a mile until he reached another bridge (the one just east of Monica Farm) and at intervals he saw four more of the birds. One of them flew and he noticed the pale wing stripe.

At home he consulted his field guide and concluded the birds could only be Black Rails, a species which he had never seen before. He put the message on the Bird Alert. He told me he was going back with a camera. I reported all this to Robert Kreba, but, because of prior commitments, he was unable to go with Nels.

On 22 May, I reached Paul James, Curator of Ornithology, SMNH, who was unaware of the Black Rail sightings, but was most interested and hoped he would be able to accompany Nels on a canoe trip. When I telephone Nels Arbinson on 28 May he told me he had gone back over the same route but, due to strong winds blowing the reeds, he did not see any birds. I learned then that he had made his first trip on 18 May during the forenoon, so he is actually the discoverer of the possible Black Rails.

I was back on the scene at Brown's Slough on 26 May, taking measurements with a pocket tape, and examining the locale. I found that the bank from the road edge slopes very steeply to the water's edge, the angle being  $70^{\circ}\pm$ , and the depth of the bank is 1.5 m (measured). The bank was thickly

grassed so there was plenty of cover for such a tiny bird when it dropped down each time on my previous trip.

During the night of 17 May a southerly wind blew strongly which probably carried the Black Rail flight here. It is highly unlikely that the flight consisted of only six birds. Rather, I suspect that a colony lost its habitat and was forced to move, being caught up in the wind. Black Rails could have come down wherever they found likely habitat so there may be others scattered over much country. Since Black Rails are reported to come readily to taped calls, people interested in attracting these birds could explore likely places in this manner.

According to Godfrey, the Black Rail is on Canada's hypothetical list, there being two plausible sightings in Ontario and Quebec.<sup>2</sup> Because of its secretive habits, its range is imperfectly known. Peterson indicates the closest breeding areas are in southeastern Minnesota, Iowa and southeastern Nebraska.<sup>3</sup>

My special thanks are due to Nels Arbinson, of 20 Birchwood Road, Regina, whose courteous cooperation helped me considerably.

1. BENT, A.C. 1927. Life histories of North American marsh birds. Dover, New York. 392 pp., plus 98 plates.
2. GODFREY, W. E. 1986. The birds of Canada. Nat. Mus. Canada, Ottawa. 595 pp.
3. PETERSON, R. T. 1980. A field guide to the birds of eastern and central North America. Houghton Mifflin, Boston. 384 pp.





# THE WHITE-THROATED SPARROW THAT STAYED

VELMA SPIZAWKA, Box 47, Spalding, Saskatchewan. S0K 4C0

For generations, the comings and goings of migrating birds have mystified man, giving rise to many theories and speculations. There was the "transformation" or "transmutation" theory which even scholars such as Pliny and Aristotle believed to be true; it was the idea that a given bird could change into another form or species.<sup>2,3</sup> There was another theory which even the great ornithologist Carolus Linnaeus could not be talked out of, which was about "immersion." Part of this theory explained that some birds roll up into a ball and drop into the water; it was considered true because "fisherman sometimes caught these lumps in their fishing nets." Still another explanation, a bit of folklore, states that "sparrows were being generated spontaneously from mud and horse-hair."<sup>7</sup> On our side of the continent, the Inuit and Indians believed that some small birds hitched rides on the backs of larger birds, such as geese and herons.

We have come a long way in our understanding about some of the mysteries of migrations, but nonetheless, the unusual and the unexpected happenings still raise questions — and add some excitement to our winter bird watching. Once in a while, a single bird, for some reason or another, remains behind in the fall instead of flying to warmer regions with the rest of the flock. One such bird, a White-throated Sparrow, missed the boat going south last fall and fed in our backyard all winter.

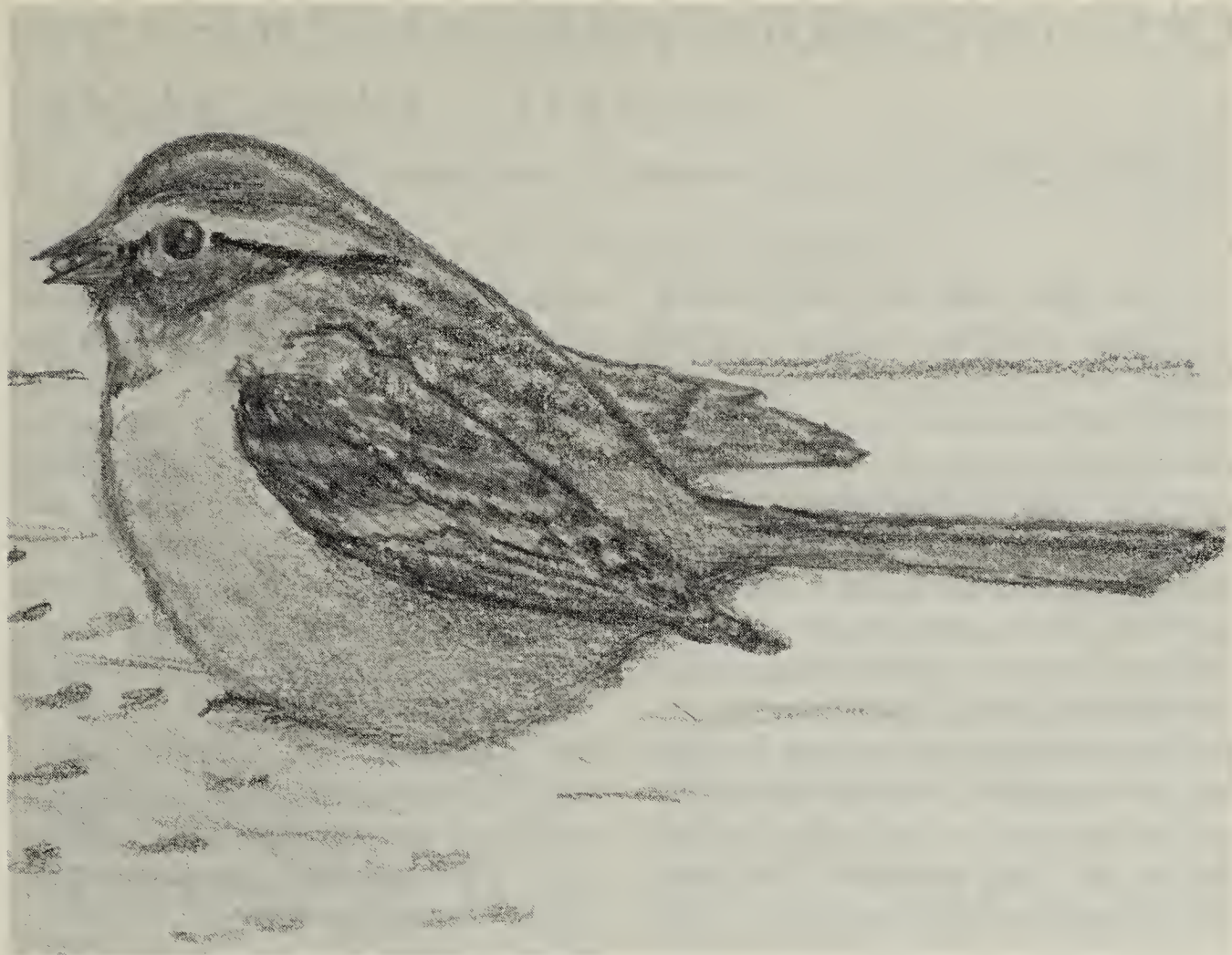
How does a bird that usually goes south manage to survive a central Saskatchewan prairie winter? We see the year-round resident House Sparrows sheltering in available Purple Martin houses and all sorts of nooks and crannies as well as in the dense branches of evergreens; so we hoped that the white-throat also found some such sheltered niche for itself.

The white-throat seems to be a "loner," even in a flock of other birds. It is the same size as a House Sparrow, but the head stripes and light-coloured throat patch set it apart. Its tail too is different from other sparrows. The tail is slightly longer and more slender, usually held at a more acute angle. On rare occasions, it flicks its tail feathers, much as juncos do.

House Sparrows get spoofed off the feeders at the least provocation. The native birds - the grosbeaks, redpolls and siskins - take advantage of this behaviour and make good use of the unoccupied feeder. The white-throat was no exception; often it was the only bird left at the feeder. In the very cold weather in the middle of winter, we would see this little sparrow all huddled up, looking like a little ball of fur in its fluffed up feathers.

The Audubon Society *Master Guide to Birding* shows the White-throated Sparrow's usual winter range as being "casually in southern Canada."<sup>6</sup> *The Birds of Canada*





*White-throated Sparrow at feeder with feathers fluffed out.*

*Velma Spizawka*

shows this bird as wintering only in eastern Canada and in southern British Columbia, and "very rarely elsewhere."<sup>4</sup>

The annual Christmas Bird Count (CBC) shows small numbers of White-throated Sparrows for the prairies, the farthest northerly record in Saskatchewan in recent years as being in Porcupine Plain in 1991.<sup>5</sup> The Alberta CBC seems to average about two white-throats per year.<sup>1</sup>

The unusually early onset of winter, starting with the two snowstorms in October, may have been a deciding factor in this bird's decision to remain in the area. Finding a ready source of food at the feeders may also have been a contributing factor. Welty and Baptista in *The Life of Birds* state that birds are "creatures of comfortable habitat and will change their habits only under necessity."<sup>8</sup>

1. *Alberta Naturalist*. Vol. 15, No. 4, Winter 1985.
2. BAKER, R. 1980. The mystery of migration.
3. DORST, J. 1961. The migration of birds. American edition. Houghton-Mifflin, Boston. 476 pp.
4. GODFREY, W.E. 1986. The birds of Canada. Nat. Mus. of Canada, Ottawa. 595 pp.
5. HARRIS, W.C. 1991. 49th Annual Saskatchewan Christmas Bird Count - 1990. *Blue Jay* 49:7-26.
6. PETERSON, W. R. 1983. White-throated Sparrow. In Farrand, John, Jr. Audubon Society master guide to birding. Vol. 3. Knopf, New York. 399 pp.
7. WEIDENSAUL, S. 1991. The birders miscellany. Simon and Schuster, New York. 100 pp.
8. WELTY, J.C. and BAPTISTA, L.F. 1988. The life of birds. W.B. Saunders. 495 pp.



# OUR FIRST ORCHARD ORIOLE

FLOSSIE BOGDAN, Box 207, Avonlea, Saskatchewan. S0H 0C0

On 26 May 1990, we heard a new bird song. We had no idea who the singer was. In the following two weeks we had many glimpses of a yellowish bird that did not fit descriptions of any of the warblers. We would say, "There's that bird again." Because of fierce winds we did not hear anymore singing until 12 June, a sunny, calm day. With binoculars, I followed the song from tree to tree and finally the singer showed himself on a somewhat bare tree branch. It was a beautiful adult male Orchard Oriole. All that afternoon, the bird flew around the yard singing.

On 13 June, I taped his song — along with gusts of whistling wind, squeaky branches, and chirping young House Sparrows — on a tape recorder. Also, I wrote down what the song sounded like to me.

On the evening of 16 June, I was standing near the big window when a yellowish bird landed in a nearby tree. I had a good look at its size, wing bars and sharp bill. Then it flew down to a bush below the window

and picked insects or nectar from the blossoms. With only the window between us, I stood still, watching, taking in all the details, when another of its kind came along. It too picked at the blossoms, but this new bird had a black bib. Checking with the books I identified them as female and first year male Orchard Orioles. Short phrases of song were heard on 3 and 11 July.

On 29 July, I found an empty nest woven of grasses, 11 to 12 ft. up a tree. The nest cup was about 8 in. deep. The female (before I had identified her) had been seen around the same tree.

On 26 May 1991, a year after the first sighting, I happened to be outside when I heard the now familiar song. I looked up to see a beautiful adult male Orchard Oriole, singing his heart out at the top of a tree. Unfortunately, I did not have the tape recorder handy. This time, his short visit lasted just a week. Nasty winds prevented me from taping his song.



I care to live only to entice people to look at nature's loveliness. My own special self is nothing. (I want to be) like a flake of glass through which light passes. *John Muir. Cornell, 1987. Listening to Nature, Dawn Publications.*



# BALD EAGLES STEAL FISH FROM RIVER OTTERS

PETER TAYLOR, Box 597, Pinawa, Manitoba. R0E 1L0

Bald Eagles are versatile and opportunistic predators, obtaining food by a combination of hunting, fishing, scavenging and piracy.<sup>4,5</sup> The victims of their piracy are often other fish-eating or scavenging birds, such as Ospreys, mergansers, gulls, crows, and vultures, as well as other Bald Eagles.<sup>2,3,4,5</sup> Bald Eagles are also known to rob Sea Otters (*Enhydra lutris*).<sup>5,7</sup> Two published accounts of interactions with River Otters (*Lutra canadensis*; hereafter, otters) are discussed below.<sup>1,6</sup>

Within the last ten years, I have received three independent, anecdotal reports of adult Bald Eagles taking fish from otters during winter at different places along the Winnipeg River in southeastern Manitoba. The observers and locations were: Jack Lamb at Pointe du Bois in late winter 1982; Glen and Coleen McGee near Seven Sisters Falls in mid-December 1987; and Bud and Kay Burwell at Otter Falls in December 1991. All the observers work or live within sight of permanent open water, and each reported eagles stealing fish from otters several times.

In every case, the otter was observed with a fish, hauled onto the ice at the edge of open water. By flying close to the otter, the eagle would drive it into the water and then take possession of the abandoned fish. Although observations were not recorded in detail, there was no mention of an eagle ever striking an otter, nor of any significant defensive action other than retreat by the otters.

There are at least two published accounts of related interactions between Bald Eagles and otters.<sup>1,6</sup> In January 1975 a Bald Eagle, an otter and an unidentified fish were all found dead on the ice bordering a salt-water inlet at Terra Nova National Park, Newfoundland. Wounds on the eagle and otter were consistent with a battle over possession of the fish.<sup>6</sup> In Wisconsin, Beckel observed two interactions between Bald Eagles and otters during more than 200 hours of otter observation.<sup>1</sup> In both cases, an eagle "attacked" an otter with a large fish, but the otter retained possession of the fish by carrying it back into the water.

In winter, open water on the Manitoba portion of the Winnipeg River is usually limited to a few short stretches (<1 km) of fast, turbulent flow and some longer stretches (1-3 km) downstream from the six hydroelectric dams, which include Pointe du Bois and Seven Sisters Falls. Migrating or overwintering Bald Eagles, as well as otters, are frequently observed at these localities, especially in December and March. Limited open water probably increases contact between the two species. Since the stretches of open water are largely surrounded by river ice, the otters are much more conspicuous (and hence, presumably, more vulnerable to piracy) than at other seasons.

Few eagles overwinter in Manitoba, but one or two have done so at Seven Sisters Falls almost



annually since 1981-1982, and less regular mid-winter records have also occurred at McArthur Falls. The latest fall migrants along the Winnipeg River typically leave in mid-December, and the first spring arrivals are usually observed in mid-March.

Since piracy on otters does not involve pursuit, the energy benefit to the eagles, as discussed by Fischer, would seem to be greater than is the case with piracy on birds.<sup>3</sup> The reports by Beckel and Rosen, however, indicate that this behaviour is neither 100 percent successful, nor risk free.<sup>1,6</sup> Severe cold weather and limited fishing and hunting opportunities for Bald Eagles at the northern extremity of their inland winter range are likely a driving force for this piracy.<sup>4</sup> It is possible that theft from otters is a significant source of food for some Bald Eagles in winter.

I thank Jon Gerrard for helpful comments on this note. I would be interested to learn of any other

observations of interactions between Bald Eagles and otters.

1. BECKEL, A.L. 1981. Interactions between Bald Eagles and North American River Otters. *Passenger Pigeon* 43:3-4.
2. BROCKMAN, H.J. and C.J. BARNARD. 1979. Kleptoparasitism in birds. *Anim. Behav.* 27:487-514.
3. FISCHER, D.L. 1985. Piracy behaviour of wintering Bald Eagles. *Condor* 87:246-251.
4. GERRARD, J.M. and G.R. BORTOLOTTI. 1988. The Bald Eagle: haunts and habits of a wilderness monarch. Western Producer Prairie Books, Saskatoon. 178 pp.
5. PALMER, R.S., J.M. GERRARD and M.V. STALMASTER. 1988. Bald Eagles: *Haliaeetus leucocephalus* (Linnaeus). In: Handbook of North American birds. Vol. 4. Diurnal raptors (Part 1). Edited by R. S. Palmer. Yale University Press, New Haven, CT.
6. ROSEN, M. 1975. Bald Eagle and River Otter. *Can. Field-Nat.* 89:455.
7. SHERROD, S.K., C.M. WHITE and F.S.L. WILLIAMSON. 1976. Biology of the Bald Eagle on Amchitka Island. *Living Bird* 15:143-182.



A sage, on how he became so wise: The rocks were among my first teachers. From them I have learned how to sit and be still. Once I did this, I began to notice everything around me in a new way. An oak tree taught me the difference one life can make: I saw how this oak tree and its brethren warmed the cold winter and made the summer's heat more pleasant; how the forest animals came to the tree for shelter, food and comfort. Since then I have tried to live for others. *Cornell, 1987. Listening to Nature, Dawn Publications.*



# BELOW AVERAGE WHOOPING CRANE PRODUCTION IN WOOD BUFFALO NATIONAL PARK DURING DROUGHT YEARS 1990 AND 1991

ERNIE KUYT and SAMUEL J. BARRY, Canadian Wildlife Service, Room 210, 4999 - 98 Avenue, Edmonton, Alberta. 76B 2X3, and BRIAN W. JOHNS, Canadian Wildlife Service, 115 Perimeter Road, Saskatoon, Saskatchewan. S7N 0X4

The production of juvenile Whooping Cranes on their breeding range in Wood Buffalo National Park (WBNP) in the period from 1984-1989 was unsurpassed by any previous period of six consecutive years. Between 15 and 25 juveniles annually reached the winter range at the Aransas National Wildlife Refuge (ANWR) in Texas during that time, averaging a production of 19.3 wintering young per year.

Each year, during the late May removal of surplus eggs from the Whooping Crane breeding range in and near WBNP, we measure the water depths of nesting ponds at 1-m distance from the nest edge. Mean annual water depths recorded since 1976 (Table 1) indicated two periods of high water levels (1976-1979 and 1982-1989) and two periods of low water levels (1980-1981 and 1990-1991). Tests showed that water depths in the two high water periods did not differ nor did those between low water level periods. Water depth in both high water level periods was significantly different ( $p < 0.001$ ) than that in both low water periods.

Average pond depths from 1976-1991 varied from 14.3 - 27.8 cm. During this period, production of juveniles (i.e., birds arriving at ANWR) varied from 0.12 - 0.78 juveniles per

breeding pair (Table 1). Annual production of juveniles was significantly correlated ( $R^2 = 0.446$ ;  $p < 0.05$ ) with yearly mean water depths at nest sites. This relationship is described by the linear regression: productivity =  $-0.206 + (0.032 \times \text{mean water depth})$ . In the more recent high water level period (1982-1989) there was a steady increase in production of juveniles until 1987 when the all-time record of 25 juveniles was established.

There appears to be a one-year lag in the decline in production in response to lowered water levels, somewhat similar to the effect of a decline in water levels from 1979 to 1980. This two-year period exceeded the 1981 production of two juveniles (17 breeding pairs), the lowest production (equalling that of 1973 and 1974 for which no water level data are available) since 1967 when the Canadian Wildlife Service (CWS) began expanding management and research of Whooping Cranes on the breeding range.

The one-year lag in response to changes in nest pond water depths also occurred when water depths increased (1978-1979; 1980-1981) but productivity declined. Perhaps pond water depth (and thus productivity) in part is correlated with the previous year's soil moisture reserves. Unless



**Table 1: RELATION BETWEEN ANNUAL NEST POND WATER DEPTHS AND PRODUCTION OF JUVENILE WHOOPING CRANES, 1974 - 1991**

Year	Mean water depths (1m from nest)	Nest ponds sampled	Production*	Breeding pairs	Young per pair
1966-73	no data	—	—	—	—
1974	52.5	1	2	15	0.13
1975	31.0**	12	8	16	0.50
1976	27.8	15	12	16	0.75
1977	22.2	17	10	17	0.59
1978	21.1	12	7	15	0.47
1979	24.9	18	6	19	0.32
1980	14.3	12	6	19	0.32
1981	16.2	13	2	17	0.12
1982	21.5	16	6	17	0.35
1983	20.5	18	7	24	0.29
1984	24.3	16	15	29	0.52
1985	25.3	27	16	28	0.55
1986	26.1	27	21	29	0.72
1987	22.6	25	25	32	0.78
1988	22.1	28	19	31	0.61
1989	23.4	25	20	31	0.65
1990	15.3	18	13	32	0.41
1991	14.7	17	8	33	0.24

\* juveniles arriving at ANWR

\*\* measured at 30 cm from nest, excluded from analysis

the mean 1992 nest pond water depth increases to about 20 cm or higher, it is unlikely that the 1992 production of juveniles will increase significantly above 0.24 juveniles per breeding pair (Table 1).

Satisfactory water depths in the breeding range are of critical importance. Whooping Cranes select shallow ponds, islands and marshes as nesting areas and use emergent wetland vegetation such as bulrush, sedge and cattail as nest material. During spring and summer, the cranes forage almost exclusively in wetlands, particularly along the margins of shallow ponds, where larval and nymphal forms of insects may occur, as well as leeches, snails, small fish and frogs. With lowering water levels, pond margins become exposed, revealing foraging cranes and their flightless chicks; the birds' feeding opportunities decline, frequently forcing them to travel overland to the next pond and exposing

themselves to terrestrial predators. These predators, such as the Gray Wolf, find it easier to travel in drying areas and, when wolves encounter crane chicks, the deaths of the flightless cranes are inevitable. Wolf predation of Whooping Crane chicks was first documented in 1979 and recorded again in 1982 and 1983.<sup>2,4</sup>

By the end of February 1990, about 76 cm of snow covered the ground in Fort Smith, Northwest Territories, the weather station nearest the Whooping Crane breeding range. This amount of snow was greater than for any of the previous six years. Although cold weather in April and May maintained relatively stable water levels in the region, it may have delayed production and maturation of invertebrates. Mosquitoes did not become numerous in the district until about 12 June, and observations of insectivorous birds (i.e.,

Eastern Phoebe) were 11 days later in 1990 than in the previous year. This slow warming trend delayed initiation of nesting and may have discouraged four previously breeding pairs from nesting at all.

Water levels in nest ponds in 1990 were the lowest since 1980 (Table 1). Readings in 1990 of CWS water gauges (located along Highway 5, south of the centre of the crane nesting area) confirmed a continuing decline in water levels throughout the summer, further corroborated by the findings of the National Hydrology Research Institute.<sup>5</sup>

CWS aerial surveys over Whooping Crane breeding range in 1990 were flown between 29 April and 25 May. During the seven surveys we located 30 nests and found two more on 9 June. The total of 32 nests equalled the record established in 1987. After the removal of 12 surplus eggs on 27 May 1990, 47 eggs remained in nests in WBNP. Daily production surveys flown from 6-11 June indicated that at least 29 chicks had hatched between 27 May and 11 June. On 11 June, 22 chicks remained, with eight eggs still unhatched.

The final series of four aerial surveys in 1990 was completed from 29 June to 4 July. At that time, 16 chicks were still alive, including 2 from the 8 late eggs. A month-old dead chick was sighted from the air on 1 July and recovered. A necropsy of the female chick did not show evidence of trauma nor of starvation but there was a possibility of enteritis. The carcass was heavily autolyzed however, and no diagnosis of cause of death could be made (Dr. D.K. Onderka, pers. comm.). Chicks are not capable of sustained flight until about 15 August and evidence of three further losses (probably on the breeding range) became apparent when 13 juvenile cranes were counted at 50(4). December 1992

ANWR in fall 1990 (Tom Stehn, pers. comm.).

The peak 1990-1991 wintering population of 146 birds at Aransas suffered severe losses. Eleven birds including five of the 13 juveniles and at least three adults from different breeding pairs died. Only one carcass was found but it had deteriorated and cause of death would not be established. (The nonbreeding segment [almost half] of the crane population is largely in WBNP with a few birds probably elsewhere in Alberta and Saskatchewan.)

During spring 1991 migration, an adult female Whooping Crane was shot in Texas and the two men responsible for the shooting were convicted and sentenced. An estimated 135 Whooping Cranes completed the northward migration.

Climatic conditions at Fort Smith in spring 1991 were similar to those of the previous year. Spring precipitation was not greater than in 1990. No appreciable precipitation was recorded from March to the end of May (Flight Services, Transport Canada). Whooping Crane nest pond water levels recorded during the 28 May 1991 removal of surplus eggs averaged 14.7 cm, even lower than the previous year's figure and almost identical to that of 1980 (14.3 cm), the lowest level recorded (Table 1).

A dry spring around Fort Smith was followed by one of the wettest Junes on record (rain on 16 days), followed by 15 days of rain in July. June and July precipitation figures were respectively 114.4 and 86.6 mm (Flight Services, Transport Canada). Although WBNP was lush green in the summer of 1991 and provided good cover for young cranes, the rains may have come too late to allow invertebrate food stocks to increase in time. The almost continuous rains for much of June and July may have disrupted crane feeding, thus increasing mortality of small chicks.



Aerial searches for nests in 1991 were carried out from 28 April to 24 May. We located 32 nests and one additional family. These 33 known nestings established an all-time record dating back to at least 1938. Eleven colour-banded (and thus identifiable) birds and three un-banded cranes, comprising seven previously nesting pairs, were found but were not nesting in 1991. Several of the birds had lost mates during the previous winter. Three other banded pairs and a single bird, all expected to nest for the first time in 1991, failed to breed. On the bright side, we found four novice nesting pairs as well as another bird nesting for the first time with a previous breeder. We assume that unfavourable habitat conditions in spring discouraged many experienced and novice breeders from nesting in 1991.

Of the 33 nests accounted for, 28 or 29 contained two eggs each and at least four contained a single egg. Three of eight birds in attendance at one-egg clutches were novice breeders. One nest was abandoned before 28 May and the renesting effort also failed. Two nests with two eggs each were found destroyed before the egg pickup (most likely by a Black Bear, who may also have taken the eggs from a nearby Sandhill Crane nest) and a fourth nest (with two eggs) not found until 19 May and not visited during the egg pickup, had been abandoned on 12 or 13 June.

On 28 May we visited 20 nests and collected 16 surplus eggs. Thirteen nests were not visited: eggs in one nest had already hatched, several nests had been destroyed, one nest was too far from the core nesting area, eggs in several late nests were too young and thus not suitable for transport and a few other

nests were skipped as they were too close together and visiting one nest would have disturbed the others as well. We substituted single, live eggs into seven nests and removed five non-viable eggs and two late eggs (from single-egg clutches). Substitutions are made to ensure that the maximum number of nests will have at least one viable egg.

During the annual egg collection, viability of eggs in nests is tested by placing the eggs in a container of 30-35°C water and watching for movements of the egg. In this way, non-viable eggs can be identified and removed from the field. Live eggs are substituted into nests containing non-viable eggs, are sometimes exchanged for eggs of doubtful quality or exchanged with eggs which are too young for meaningful viability tests. A comparison of the hatching success of tested and untested eggs between 1985 and 1988 indicated an increase in hatching success of about 15 percent as a result of these manipulations.<sup>1</sup> Undoubtedly the technique also enhances the production of juvenile Whooping Cranes.

At the completion of the 1991 egg pickup and substitution, 18 nests contained a single egg. Two eggs of unknown quality were in eight other nests. The egg(s) in three nests had already hatched on 28 May, two nests had been destroyed before that date, one nest contained a single egg of unknown quality (a re-nesting effort which later failed) and one nest was not found (although the adults and single chick were later observed). This accounts for all 33 nests known in 1991.

The 16 eggs collected (including the five non-viable ones) were shipped to the Patuxent Wildlife

Research Centre, United States Fish and Wildlife Service (USFWS) near Laurel, Maryland, where six of the 11 viable eggs hatched. Five embryos (an unusually high number) died at various stages of incubation.

During 10-15 June surveys in a USFWS aircraft we observed 21 chicks, six of them from substituted eggs. From the eight two-egg clutches not visited during the egg pickup, five pairs of cranes each had a single chick, one pair had both chicks and the other two pairs had lost both eggs or chicks. By the end of this period, about 16 eggs or chicks had disappeared and, added to the pre-pickup losses of four eggs, 20 (44%) of the 45-46 eggs or chicks had already been lost.

Further losses continued during the summer as evidenced from aerial surveys on 17 and 20 August when Kuyt accounted for nine crane families, each with a single juvenile. Only one family, known to be intact on 15 June could not be found but all other nesting pairs (except one novice breeding pair) were believed to have been located on those two days.

Eight of these nine families made it safely to ANWR as part of a total wintering population of about 132 cranes (T. Stehn, pers. comm.). This is the second consecutive year that Whooping Cranes in the WBNP-ANWR population have not increased; they held their own in 1990, and declined from the preceding year in 1991. These two years of production were preceded by seven consecutive years (1983-1989) of numerical increases in the population. The loss of one or two year's production is largely due to unfavourable habitat conditions in WBNP. Of far greater significance, particularly in the long term, is the continuing satisfactory survival of subadults (nonbreeding) and the concomitant increase in the number of proven and

potential breeding adults. With 33 observed nests or family groups and ten pairs not nesting in 1991 but expected to have done so (seven previously breeding pairs; three novice pairs), there was a potential of 43 breeding pairs in 1992.<sup>3</sup> Studying winter distribution of Whooping Cranes, Tom Stehn found that as many as 46 winter territories were occupied by known breeding pairs or families and by pairs with a high degree of frequency of association.<sup>6</sup> The latter pairs generally form breeding pairs. To reach a record number of breeding pairs in the next few years, Whooping Cranes must be exposed to no more than marginal mortality during the rest of the 1991-1992 winter and must have acceptable spring and summer habitat conditions in WBNP in 1992.

1. KUYT, E. 1992. Case study: Whooping Crane. Chapter 4 - Reproductive manipulation *In* The management of populations of endangered bird species. Technical publication, International Council for Bird Preservation, in press.
2. KUYT, E. and J.P. GOOSEN. 1987. Survival, age composition, sex ratio and age at first breeding of Whooping Cranes in Wood Buffalo National Park, Canada. Proc. 1985 Crane Workshop, Grand Island, Nebraska, pp. 230-244.
3. KUYT, E. and B.W. JOHNS. 1991. Location of nonbreeding and novice breeding Whooping Cranes, Wood Buffalo National Park - 1991. Unpublished Canadian Wildlife Service Report. 22 pp.
4. KUYT, E., B.E. JOHNSON and R.C. DREWIEN. 1981. A wolf kills a juvenile Whooping Crane. *Blue Jay* 39:116-119.
5. MCNAUGHTON, D. 1991. Hydrological investigations Wood Buffalo National Park 1985 to 1990. Report prepared for Canadian Parks Service, Fort Smith, NWT. 15 pp., figures and appendices.
6. STEHN, TOM. W. Whooping Cranes during the 1990-1991 winter. Unpublished United States Fish and Wildlife Service Report. 103 pp.



## WOMAN BY THE SHORE AND OTHER POEMS

ROBERT W. NERO. 1990. Nature Heritage Books, Toronto. 51 pp., black and white illustrations. \$9.96.

In a recent article in *Blue Jay* in which he records a new Great Horned Owl longevity record, Robert Nero marvels at "the existence of a bird in the wild beyond the usual life span" because, as he puts it, "so many things can happen to a bird" (*Blue Jay* 50:92). Over the years many things have happened to Robert Nero himself. He has become a highly reputed ornithologist, nature writer and educator; now, with the publication of *Woman by the Shore and Other Poems*, he has become what many have suspected he has been all along — a poet. The volume is dedicated to Louise de Kiriline Lawrence on the occasion of her ninety-sixth birthday (Lawrence died earlier this year at the age of ninety-eight) and it is indeed a fitting tribute to one sensitive artist from another. The concluding lines of the title poem of this collection of personal lyrics sets the tone for the entire volume:

Listen to the loon  
dear lady, let the voice of  
the white throat  
send you my love.

Though serious in intent the poems are executed with a light touch. The free verse lines (the syntax always clear) rise and fall in cadence; the diction is simple with the figures of speech economically, though evocatively, worded. And as he describes with graphic concreteness many of nature's "small things,"

Nero manages to convey the quiet joy he himself feels as the result of his observations. He notes the "squeaky, hesitant trill" of a grackle, the "filagreed sinews" of plants in winter, "the catkin-drenched" aspen, and the wren in search of "dawn-numbed nymphs." In "Fall Event" he focussed on a single image, "our ash tree" and pictures the "slow trickling fall" of the golden leaves:

until  
by evening light  
with bare limbs aloft  
her yellow dress  
lies at her feet.

"No Alarm" is more narrowly focussed and makes, in very few words, a strongly sensuous impact:

A wasp hovers  
so close  
the breeze of its wings  
alerts the hairs  
on my arm.

As the title poem, from which I have already quoted, suggests, the ability to observe the miraculous detail of the natural world leads to a sense of serenity and certainty. Such a sense in turn deepens the poet's love for another person of like mind. One of the most successful (and one of the longest) poems in the collection, "Wild Plum Tree," illustrates the point:

Wondrous, that from these  
thin, crooked branches  
held aloft today in silence  
can emerge a billowy white veil  
as often crowds the edge  
of woods I've driven past and  
wished I'd owned.

This will be our woods brought  
home;  
when we go to test its fragrance  
I'll rest my hand on your  
shoulder  
and be glad.

"Fallen Feathers" sensitively expresses the same mood:

In fresh morning light  
a grackle's feather  
caught on a spruce bough  
black on pale green  
is as dramatic  
as a living bird  
enough to make me  
catch my breath  
though I like best the one  
that fluttered down  
as a grackle passed.

The plumes are proof  
that autumn lies ahead...  
I'll send them to my love.

There are occasional flaws in the poems, either when the poet insists on making his point too explicitly (the last two lines of "First Snow" and the concluding line of "Ladybug, Ladybug," for example) or when he allows himself to lapse into sentimentality (the conclusions of "Robin's Nest" and "Quiet Sunday").

Fortunately, such weaknesses are rare in this pleasing collection which reveals, in addition to the strengths already cited, a number of semi-serious poems motivated by a whimsical sense of fun. "Unmowed Lawn" and "Salute" are two of these and although the speaker never lets us forget that he is growing old, there is an impish youthfulness in the lines which is very appealing.

Fittingly placed at the end of *Woman by the Shore* is "Teacher," which imaginatively provides a

succinct summing up of all that has gone before, including the delicate precision of James A. Carson's sketches:

It takes a tame owl  
to show me things  
I'd otherwise miss  
or overlook  
or lose the importance of  
such as  
dead, dry aspen leaves  
still on their twigs  
rustling in a cold breeze  
set to tapping against  
each other —  
a small thing  
but it caught the owl's  
attention for a moment  
her head tipped up  
motionless, watchful, listening  
a delicate fall sound  
I'd heard before  
but never perceived.

Reviewed by *Jeanie Wagner*, 4930  
Dewdney Avenue, Regina, Sas-  
katchewan. S4T 1B8

### **BIRDS OF EAST-CENTRAL SASKATCHEWAN: KELVINGTON TO KELSEY TRAIL**

DONALD F. HOOPER. 1992. Publication No. 1 in the Manley Callin Series and No. 18 in the regular series of special publications by the Saskatchewan Natural History Society, Regina, Saskatchewan. 160 pp., 36 photographs, 2 maps. \$8.95.

This new volume by Don Hooper has given the Saskatchewan Natural History Society's (SNHS's) Manley Callin Series a solid start. Don has brought together the records of dozens of people for more than 70 years in a part of Saskatchewan long believed to be extremely rich in its variety of bird life. His resulting list of 286 species proves that supposition,





A sample of photography from  
***Birds of East-Central Saskatchewan***

Donald F. Hooper

not only documenting the presence and breeding of expected species but adding as well the first provincial and/or first regional nest records for others.

He describes in detail the area and its many special features and through habitat photos shows the varied landscape of this relatively little known part of the province. Each species in the annotated list is described in terms of its study area. A seasonal checklist and a table showing species' breeding status in each of ten habitat types complete Hooper's thorough presentation of the birds of his area. Anecdotes accompanying the numerous species photos provide amusing and unique insights into bird and human behaviour. All photos but one were taken by Hooper himself.

Manley Callin envisioned a comprehensive and definitive publication on the birds of Saskatchewan and through a generous bequest to

SNHS encouraged its preparation. The entire sum has been placed in a trust fund and the annual revenue is being used to produce the individual volumes in the present series, which is designed to fill in gaps in our knowledge of provincial bird distribution and abundance. Written by SNHS members who receive no payment, these books will describe the birds of such areas as Last Mountain Lake, the Coteau, Cypress Hills, Yorkton, Saskatoon and Moose Jaw. Also to be featured is a distributional geography of provincial birds, with extensive mapping of breeding and migration data. Combined with earlier work by many others, the Callin Series will provide documentation for *Birds of Saskatchewan*, to begin in 1995. (Dale Hjertaas wrote a more lengthy description of the Callin Series in *Blue Jay* 46:109-110.)

*Birds of East-Central Saskatchewan* is available from the Blue Jay Bookshop, Box 22270, Regina, Saskatchewan. S4S 7H4



# LETTERS

## Hawk Attack

On 2 August 1992 I had a rather mystifying experience with a Swainson's Hawk.

I had gone to Last Mountain Lake bird refuge to spend the day exploring the area. It was a warm, sunny day with a pleasant breeze. It was about noon when I parked my vehicle on one of the grid roads. I chose to walk along a path which led through an expanse of grasses and flowers to a thicket about 75 yards away; beyond that, about another 100 yards, there was another thicket. I walked quite slowly, and although I noticed two Swainson's Hawks far overhead, nothing unusual happened until I was about two-thirds of

the distance to the second thicket.

I walked through a spider's web, and paused to brush the spider off my leg. I stooped to do this, and while I was looking down at my leg, I heard a tremendous whooshing sound. I lifted my eyes from my leg to get a phenomenal view of the talons and underside of a hawk. Reflexively I dropped to a crouch, and the bird pulled up and away. I had no idea what had prompted its behaviour. I moved on about 10 or 15 feet and looked at the second thicket through my binoculars. I wondered if the bird had been trying to discourage me from coming closer to its nest, though it seemed late in the year for that and I could see nothing of significance in the thicket.



*Young Swainson's Hawk*

*C. Anweiler*



Nevertheless, I was a little unnerved and decided to retreat.

I was probably at about the same spot where the bird had first dived at me when I heard that whoosh of wind through feathers again, and was hit a blow to the back of my head. I sped up, not wanting to turn around or look up for fear of getting those talons in the face. Within minutes I heard the whoosh again. This time I ducked. The bird's talons pulled off my hat and punctured my scalp in a few places. Retrieving my hat (a nondescript grey ball cap) from where it had fallen, I spun around waving it and yelling, to see one hawk winging over the grasses — I am not sure where the other one was. I continued my speedy retreat, but nothing further happened, and, when I left, both hawks were high overhead.

I am quite mystified by this experience. What could have prompted the hawks' behaviour? A friend suggested that a young hawk might have been in the grasses nearby. Would this be at all likely? I also wonder if my hat waving scared the hawk away, or whether it had simply accomplished its purpose by then. I rather suspect the latter, but I welcome others' opinions. Finally, if something similar happens again (hopefully it will not), what is the best

way to react?

*Jeremy Baumbach*, 504-2339 Lorne Street, Regina, Saskatchewan. S4P 2N2

## **ALBINO GRAY SQUIRREL IN OHIO**

Last fall I attended a meeting in Columbus, Ohio. During a noon hour break (on 11 November 1991), I went for a walk along the nearby Olentangy River, where there was a sizeable stand of what appeared to be old growth deciduous forest.

I watched the busy activity of many Gray Squirrels as they went about their business putting up rations for the winter. At one point, I spied a squirrel-sized animal behind some dense hedges. It was as white as snow. I crept within about 29 feet and was able to clearly identify the animal as an all-white adult Gray Squirrel, in the company of two other squirrels. Unfortunately, at that point, a stroller accompanied by a large dog came down the path and the colourless squirrel made itself scarce.

*Ken Pivnick*, 209 7th Street East, Saskatoon, Saskatchewan. S7H 0W9



At a "game ranch" in Oklahoma, you could shoot a "male African lion with a good mane" for \$5,995. At another in California, one customer paid \$10,500 to kill a leopard, a cougar and a Bengal tiger. In Texas there are just under 500 "game ranches." *Ted Williams, Audubon Jan-Feb/92*

## RESULTS OF THE 1992 SNHS MEMBERS AND NON-MEMBERS SURVEYS

PAUL C. JAMES, Saskatchewan Museum of Natural History, 2340 Albert Street, Regina, Saskatchewan. S4P 3V7 and CURT SCHROEDER, Saskatchewan Natural History Society, Box 4348, Regina, Saskatchewan. S4P 3W6

It was Mrs. Isabel Priestly who in 1942 as president of the Yorkton Natural History Society and editor of the mimeographed bulletin *The Blue Jay* gave this journal its first life. When the Yorkton Natural History Society could no longer support the publication of *The Blue Jay* its survival seemed more secure as part of a provincial body. So, in 1949, *The Blue Jay* publication gave a purpose to the newly incorporated Saskatchewan Natural History Society (SNHS).

Now, after 50 years of publication it seems appropriate that the SNHS re-examine its publication directives and other aspects of the SNHS itself.

Two professionally conducted surveys were commissioned to assess the Society from the perspective of the member and non-member. The main findings are reported here. Should any reader wish to consult the full survey results, they can be seen at the Executive Office of the SNHS in Regina.

**The Non-Member Survey** The SNHS participated in one of the quarterly province-wide omnibus sur-

veys conducted by Tanka Research of Regina in February 1992. Four questions dealing with awareness and interest in joining the SNHS were developed in consultation with SNHS representatives. A total of 1,000 randomly selected telephone interviews were completed. The data from the survey contained a maximum margin of sampling error of 3.2% at the 95% confidence level.

Almost half (47%) of all Saskatchewan residents surveyed had heard of the SNHS. However, only 7% of those surveyed were able to correctly identify the role of the SNHS. Most people did not know or thought that the SNHS worked with historical sites, buildings or landmarks, or the collection and dissemination of related information. All respondents were then provided with some insight into what the SNHS actually does, and asked whether they would be interested in joining such an organization. Of those asked 36% indicated that they would be either very interested (5%) or somewhat interested (31%).

**The Member Survey** Tanka Research was commissioned in March



1992 by the SNHS to undertake a survey to explore members' opinions and preferences with respect to a wide variety of topics. A total of 300 telephone interviews (or 1 in every 3 members in Saskatchewan) were conducted with randomly selected members in the province. Institutions, departments, active SNHS board members and executive were excluded from participating in the survey. The data from the survey contained a maximum margin of sampling error of 5.8% at the 95% confidence level.

The overall average age of members was calculated at 57 years. A disappointing 1% of new members (within the last five years) were under the age of 25. Retirees is the largest occupational group represented (42%), followed by professional occupations (23%) and farmers (11%). Respondents reported to have been SNHS members an average of 14 years, with 25% less than five years, 35% from five to 15 years and 41% over 15 years. Almost half (49%) of all members surveyed said that they belong to a local natural history society as well. An additional 22% would join one if it existed in their area.

The *Blue Jay* and the *Blue Jay News* were rated almost equally as the most important benefits to members. Involvement in volunteer field projects and nature tours received fairly average ratings overall.

The vast majority (85%) of members claimed to have read all of the past four issues of the *Blue Jay*. Readers showed a strong preference for non-technical (65%) writing style in the *Blue Jay*. However, 25% said that they would like to see a balance of non-technical and technical writing. Five topics were rated highly as

the most interesting to readers: birds, endangered species, natural habitat protection, flowers and plants, and mammals.

The idea of including a "letter to the editor" section of the *Blue Jay News* was supported by the majority of members (72%).

A majority of members (61%) claimed that they have made a purchase from the Blue Jay Bookshop. Good proportions of members had participated in one of the Society's tours (42%), attended an annual general meeting (40%), or attended a spring meet (33%). Relatively few members however, had ever contributed an article to the *Blue Jay* (19%) or sat on either a local society board, or the SNHS board (16%). A majority of members had good knowledge of the Society's activities including Operation Burrowing Owl (90%), Swift Fox Reintroduction Program (86%), Piping Plover Census (70%), and Ferruginous Hawk Program (55%).

Most members (90%) felt that the increased individual membership fee beginning 1992 of \$15.00 was about right. Most (87%), however, said that they would pay an extra \$5.00 provided the money went towards habitat protection. The idea of a multi-year membership fee payment option was favoured by the majority (57%).

Reaction to the idea of a possible name change for the SNHS was mixed. The majority would either approve (27%) or be indifferent (35%) to the idea. However, 38% would oppose it, especially long-time members.

**Discussion** While the level of awareness of the SNHS may be

favourable among the general public, there is considerable confusion as to what the organization actually does. Furthermore, the Society's name appears to do little to resolve this problem. A name change might be more descriptive and conducive to attracting new naturalists. The question of choosing a name for the Society is as old as the Society itself.<sup>1</sup> Despite this, the potential to massively increase our membership exists. Looking only at those who say that they would be very interested in joining provides the most realistic indication of membership potential. Based on Statistics Canada estimates for 1991, the actual figure of 5.3% translates into about 37,800 Saskatchewan adults who would be very interested in joining the SNHS. Using the 3% margin of sampling error, the actual number would fall between 27,800 to 47,800.

Clearly there is a latent interest in joining the SNHS, but the question

is, how do we accomplish this? Should we develop a communications or a membership strategy? Should we consider changing our name?

The results of the member survey generally show a good level of awareness, involvement and satisfaction. However, few people have served on boards which is somewhat disappointing.

The next few years will be critical to the kind of Saskatchewan that our children inherit. We urge all of you to get more involved in the Society's work. We are reminded of the saying about the three kinds of people: those who make things happen, those who watch things happen, and those who wonder what happened. Together we can make a place for wild things now and in the future.

1. BELCHER, M. 1974. Formation of the Saskatchewan Natural History Society. *Blue Jay* 32:16-22.





# SNHS 1992 ANNUAL GENERAL MEETING

## Cliff Shaw Award

At the Annual General Meeting of the Saskatchewan Natural History Society in Yorkton on 17 October 1992 three members were presented the Cliff Shaw Award. The award recognizes an article of distinction in the last four issues of *Blue Jay*. The winners for 1992 were Frank Roy (Saskatoon), George Tosh (Harris), and Ken Coutu (Saskatoon). They took the photographs and chose clips of text for the photo essay "The Glory of the Athabasca Sand Dunes" (*Blue Jay* 49:164-170). The dunes are a remote and beautiful part of the Saskatchewan landscape. Few of those who would like to will ever see

them except through efforts such as those of Ken, Frank and George.

## 1992 Larry Morgotch

For the second year in a row, Don Hooper of Somme received the Larry Morgotch Award. This SNHS award is given to the member whose ten slides best tell a natural history story. This year Don gave a presentation on owls.

## Conservation Award

Gordon Silversides of Saskatoon received the 1992 Conservation Award, which is presented to a volunteer who promotes conservation



*Doug Schmeiser (right) accepts the Cliff Shaw Award on behalf of Ken Coutu, Frank Roy and George Tosh. John Pollock and Ruth Shaw presented the award.*

*Margaret Skeel*





*Don Hooper of Somme receives his second consecutive Larry Morgotch Award. Presented by Frank Switzer.*

*Margaret Skeel*



*Gordon Silversides accepts the 1992 Conservation Award for his work to save Silverspring grasslands. Presented by Katherine Letkiman of Yorkton.*

*Margaret Skeel*





*New SNHS Fellows (left to right): Lorne Scott, Ron Hooper, Don Hooper, Les Baker and Christine Pike.*

*Margaret Skeel*



*John Tremblay (left) presents Stan Shadick with award for most species counted by an individual in Weyburn Birdathon.*

*Margaret Skeel*





*Michael Williams accepts the Club award for most species in Weyburn Birdathon. Presented by John Tremblay of Radville.*

*Margaret Skeel*

generally and promotes the conservation ethic of the Saskatchewan Natural History Society. It was through Gordon's untiring efforts that others became involved to raise funds and lobby the local government to conserve Silverspring grasslands, 33 acres of native fescue/mixed prairie in Saskatoon.

### **SNHS Fellows**

Fellows are a class of membership within the Natural History Society. Fellows are recognized as having made extensive and continuing contributions of time over many years to the Society and its objectives. Five

SNHS members were named Fellows at the Annual General Meeting in Yorkton: Les Baker (Somme), Don Hooper (Somme), Ron Hooper (Regina), Christine Pike (Waseca), and Lorne Scott (Indian Head).

### **1992 Weyburn Birdathon**

On behalf of the Saskatoon Natural History Society, Michael Williams accepted the award for most bird species on a list of a club or society in the Weyburn Natural History Society's Provincial Summer Count 1992. Stan Shadick of Saskatoon won the award for the most species identified by an individual.



**SASKATCHEWAN NATURAL HISTORY SOCIETY STATEMENT OF FINANCIAL  
ACTIVITIES AND FUND BALANCE FOR THE YEAR ENDING 31 AUGUST 1992 \***

	1992	1991
REVENUE		
Grants - Sask. Trust for Sport, Culture and Recreation: Annual Global Funding	\$ 96,000	100,000
Grants - Specified Programs	119,314	151,440
Grants - Other	11,591	—
Specified Programs	24,412	5,364
Trusts	3,537	2,000
Self Generated		
AGM Revenue	1,659	—
Advertising	227	450
Bookshop Income	1,739	—
Donations	1,152	3,696
GST Rebate	3,746	—
Interest	8,244	10,765
Memberships	21,290	18,197
Sale of Assets	400	—
Special Publications	1,373	744
Spring Meet	1,617	1,584
Souvenir Sales	742	1,498
Tour Income	5,391	5,056
Recovery - Loggerhead Shrike	<u>—</u>	<u>1,140</u>
	<u>302,434</u>	<u>301,964</u>
EXPENSES		
Personnel		
Administrative Salaries	49,615	45,354
Office - Schedule 2	18,530	23,068
Membership Communication		
Blue Jay Journal	24,143	18,223
Blue Jay News	8,826	5,955
Travel and Meetings		
Staff and Volunteer Travel	2,310	2,044
Annual and Summer Meetings	4,567	1,613
Board and Executive	1,221	1,595
Programs - Schedule 3	<u>195,539</u>	<u>202,763</u>
	<u>304,751</u>	<u>300,615</u>
INCREASE (DECREASE) IN FUND BALANCE	( 2,317)	1,349
INCREASE IN BOOKSHOP FUND BALANCE	<u>—</u>	<u>533</u>
TOTAL INCREASE (DECREASE) IN FUND BALANCE	( 2,317)	1,882
FUND BALANCE, BEGINNING OF YEAR	<u>46,323</u>	<u>44,441</u>
FUND BALANCE, END OF YEAR	<u>\$ 44,006</u>	<u>46,323</u>



**SASKATCHEWAN NATURAL HISTORY SOCIETY BALANCE SHEET  
AS AT 31 AUGUST 1992**

	1992	1991
ASSETS		
CURRENT ASSETS		
Cash	\$ 129,937	166,361
Accounts Receivable	45,565	29,565
Inventory	<u>12,818</u>	<u>11,213</u>
	188,320	207,139
CAPITAL (Note 2)	20,799	22,874
OTHER		
Trust Account Investments (Note 3)	<u>282,049</u>	<u>253,393</u>
	<u>\$ 491,168</u>	<u>483,406</u>
LIABILITIES AND MEMBERS EQUITY		
CURRENT		
Accounts Payable	\$ 17,057	17,004
Special Projects - 3rd Party	7,726	—
Deferred Revenue (Note 4)	39,350	40,215
OTHER		
Specified Programs (Schedule 1)	80,181	103,597
Trust Accounts (Note 3)	<u>282,049</u>	<u>253,393</u>
	<u>362,230</u>	<u>356,990</u>
MEMBERS EQUITY		
Fund Balance	44,006	46,323
Equity in Fixed Assets	<u>20,799</u>	<u>22,874</u>
	<u>64,805</u>	<u>69,197</u>
	<u>\$ 491,168</u>	<u>483,406</u>

\* Detailed financial statements are available from the SNHS office in Regina.



## SYLVIA VAN BRIENEN (HARRISON): AN EXTRAORDINARY NATURALIST

JIM JOWSEY, Box 400, Saltcoats, Saskatchewan. S0A 3R0

The life of an active and very visible Saskatchewan Natural History Society (SNHS) member came to its close on 19 June 1992.

Sylvia Harrison left Regina and moved to Rosetown in 1967 when she married Anton van Brien (known as "Van" to Sylvia and to many of us). There she continued to be a keen observer of plants and birds and shared her natural history observations with her relatives and other naturalists at the meetings of the SNHS, or through letters and visits. In the last four years, Sylvia's own deteriorating health and her total commitment to Van's care in the progress of his affliction with Alzheimer's disease severely restricted her activity.

Sylvia's view of the natural world came from her parents, who transposed their appreciation of their native English countryside to the land near Kelvington, Saskatchewan. She was the "family naturalist" throughout her lifetime and continues to pass on her naturalist-observer approach to SNHS members through her nephew, Brian Irving. When Sylvia and Van moved back to the parkland on Van's retirement from teaching woodworking at Rosetown, she no doubt influenced the next generation of Irvings and her Fosston neighbours. In the 1960s, both my own children benefited by the exposure to the "Harrison-Irving" view of the natural world.

Sylvia's activity in the natural history

groups was notable not only for her knowledge of plants and birds but also because she was a gentle, sociable person. She was always willing to assume responsibilities where she felt she could aid in resolving some of the Natural History Society's problems. It was in such circumstances that Sylvia and I first worked together for SNHS. To get more members involved in the Society, Frank Brazier called a meeting in Regina. Few came to the meeting, but it was at this meeting Sylvia, Helen Keay and I re-organized the book sales activities into what is now the Blue Jay Bookshop. Later, I discovered through Sylvia how interesting natural history field trips and annual meetings could be.

Sylvia worked on some of the social activities associated with the American Ornithologists' Union Regina meeting, which was hosted by SNHS and the Regina Natural History Society in 1959.

In 1960 Sylvia (then Harrison) recorded the first sighting of a woodcock in the Qu'Appelle Valley in a short article in the December 1960 issue of *The Blue Jay*. Though she seldom served on the executive herself, Sylvia influenced SNHS policy through committee work and through conversations with executive members.

Sylvia van Brien's life and words and ways left a lasting imprint upon the lives of many people. We celebrate her life.

## A

- Adita chionanthi* - Fringe Tree Sallow 209
- Alberta
  - Didsbury, lepidoptera 210
  - Edmonton, birds 125
  - Elinor Lake, birds 107
  - Lethbridge, lepidoptera 210
  - Medicine Hat, lepidoptera 210
  - Wood Buffalo National Park, birds 225
- Albinism, birds 62, 125
- Amblyscirtes hegon* - Pepper and Salt Skipper 70, photo 70
- Amblyscirtes vialis* - Roadside Skipper 70
- Anathix aggressa* - Pale Sallow 209
- Anathix puta* - Dusky Sallow 209
- Antheraea polyphemus* - Polyphemus Silk Moth 124
- Anweiler, C.
  - Young Swainson's Hawk, photo 233
- Apharetra purpurea* - Purple Apharetra 207
- Apharetra pyralis* - Pyralis Apharetra 207
- Armstrong, Bill
  - Others who remember Isabel Priestly. 150
- Aschim, Ansgar
  - Others who remember Isabel Priestly. 150
- Aster umbellatus* - flat-topped aster 70
- Award, Cliff Shaw 238
  - 1992 presentation, photo 238
- Award, Conservation 238
  - 1992 presentation, photo 239
- Award, Larry Morgotch 238
  - 1992 presentation, photo 239
- Award, Weyburn Birdathon 241
  - Club award presentation, photo 241
  - Individual award presentation, photo 240

## B

- Badger 48
- Baker, Les
  - 1992 SNHS Fellow 241, photo 240
- Bancroft, Jean
  - Notes on Cooper's Hawk nesting in Winnipeg. 110
  - Observations of the Osprey. 31
- Barton, Hazel
  - Wayne Harris and Northern Hawk Owl, photo 80
- Barton, Myron
  - Fishing for Northern Hawk Owls near Prince Albert. 80

Blue Jay

- Bat 118
- Bat, Big Brown 215
- Bat, Little Brown 215
- Baumbach, Jeremy
  - Hawk attack. 233
- Beaver 48
- Bechard, Marc, photo 186
- Beck, Harvey
  - Others who remember Isabel Priestly. 150
- Beetle, Giant Carrion 123
- Berger, Robert P. and Robert Nero
  - Peregrine Falcon in Manitoba - an historical perspective. 101
- Beyersbergen, G. W.
  - Pintails, photo 140
- Bittern, American, photo 194
- Black, J. Neil
  - Others who remember Isabel Priestly. 151
- Blackbird, Brewer's 25
- Blackbird, Red-winged 25
- Blackbird, Rusty 15
- Bluebird, Mountain 189
- Blue Jay*, cover photo no. 3
  - Editors of the *Blue Jay* 129
- Bird count
  - Christmas, 50th Annual 5
- Bjarnason, Bogi
  - Summer has come. 121
- Bobcat 48
- Bogdan, Flossie
  - Our first Orchard Oriole. 222
- Bolton, Roger, photo 75
- Book Review
  - A dictionary of ethology.
  - IMMELMANN AND BEER 120
  - Birds of East-Central Saskatchewan: Kelvington to Kelsey Trail. HOOPER 231
  - Geological history of Saskatchewan. STORER 60
  - Law libraries in Canada: essays to honour Diana M. Priestly. FRASER 166
  - One long argument. MAYR 119
  - The age of birds. FEDDUCCIA 57
  - Woman by the shore and other poems. NERO 230
- Botrychium virginianum* 68
- Brachionyca borealis* - Northern Sallow 209
- Brachylomia algens* - Willow Peasant 208



*Brachylomia discinigra* - Black-disc Peasant 208  
*Brachylomia napaea* - Dark Grey Peasant 208  
*Brachylomia populi* - Cloaked Peasant 208  
 Brambling 29, photo 30  
 Brazier, Frank H.  
     Black Rails in Regina - an incredible hypothetical. 218  
     What a Black-tailed Godwit looks like. 125  
 Brigham, Mark  
     Male poorwill roosting on a rock near Vaseaux Lake, B. C., photo 41  
 British Columbia  
     Vaseaux Lake, birds 41  
 Browne, Phil  
     A frightened Osprey bander, photo 83  
 Bufflehead 25  
 Bunting, Snow 5

## C

Canvasback 185  
 Carbofuran 201  
 Caribou, Woodland 47  
 Cartwright, B. W.  
     Wild wings. 138  
 Cat, Feral 48  
*Cerapoda stylata* - Smith's Cerapoda 210  
*Chaetagnalea sericea* - Silky Sallow 210  
*Charidryas harrisii* - Harris's Checkerspot 70  
 Chickadee, Black-capped 5  
 Chickadee, Boreal 15  
 Coleville, birds 27  
 Constable, Miles  
     Albino Magpie near Edmonton. 124  
     Observations on the American White Pelican. 86  
 Coot, American 184  
*Copicucullia antipoda* - Small Falconer 205  
*Copivaleria grotei* - Grote's Sallow 209  
 Cormorant, photo 186  
 Cormorant, Double-crested 115  
 Cottontail, Nuttall's 47  
 Coutu, Ken  
     1992 Cliff Shaw Award 238  
 Cowbird, Brown-headed 25  
 Coyote 47  
 Crane, Whooping 225  
 Creeper, Brown 6, 25  
 Crossbill, Red 25  
 Crossbill, White-winged 15

Crow 45, 100, 216  
 Crow, American 25, 62  
*Cucullia asteroides* - Asteroid 205  
*Cucullia convexipennis* - Brown-bordered Cucullia 205  
*Cucullia florea* - Florea Falconer 205  
*Cucullia intermedia* - Intermediate Falconer 205, photo 206  
*Cucullia laetifica* - Laetifica Falconer 205  
*Cucullia montanae* - Montana Falconer 205  
*Cucullia omissa* - Alberta Falconer 205  
*Cucullia postera* - Postera Falconer 205  
*Cucullia similis* - Similar Falconer 210  
*Cucullia speyeri* - Speyer's Falconer 206

## D

Dales, Beth  
     Red-bellied Woodpecker, photos 28  
 Dales, Beth and Gordon  
     Red-bellied Woodpecker at Coleville, Saskatchewan. 27  
 Dalton, Preston  
     Northern Saw-whet Owl, photo cover no. 4  
 Davis, Wayne  
     Stuart Houston bands Bald Eagle, Cree Lake, 1965, photo 183  
 De Vries, B.  
     *Physalis heterophylla*, photo 149  
 De Vries, Bernard  
     Additions to the flora of Cypress Hills Provincial Park West Block in southwestern Saskatchewan. 67  
 Dechka, Stuart  
     Encounters with wolves at Prince Albert National Park. 117  
 Deer, Mule 48  
 Deer, White-tailed 47, photo 122  
 Dove, Mourning 25, photo 255  
 Dove, Rock 15  
 Duck 184  
 Duck, Harlequin 6, 25  
 Ducks Unlimited, 168  
 Dutcyvich, Jerry  
     Roger Bolton holds a Western Painted Turtle near Kuroki, photo 75

## E

Eagle, Bald 15, 115, 188, 223, photo 183  
 Eagle, Golden 15, 188  
 Egret, Cattle 62  
 Elk 48  
*Epargyreus clarus* - Silver-spotted Skipper 70

*Epidemas melanographa* - Variegated

Peasant 210

*Epiglaea decliva* - Sloping Sallow 209

Ermine 48

*Eucirroedia pampina* - Spotted Sallow  
209

*Eupsilia cirripalea* - Francelemont's  
Sallow 209

*Eupsilia devia* - Many-lined Sallow 209

*Eupsilia sidus* - Sidus Sallow 209

*Eupsilia tristigmata* - Branded Sallow 209

*Eupsilia vinulenta* - Straight-toothed  
Sallow 209

Evans, M. B.

Mysterious cocoon. 124

Polyphemus Silk Moth cocoon found  
near Weeping Birch, Nipawin,  
Saskatchewan, photo 124

Evolution 1

Extinction, mass 1

## F

Falcon, Peregrine 25, 101, photo 102

Falcon, Prairie 15, 102, 188, photo 191

Fast, Helen

Brambling: a Eurasian visitor to  
Saskatchewan. 29

Male Brambling, photo 30

*Feralia comstocki* - Comstock's Sallow  
209

*Feralia jocosa* - Jocose Sallow 209

Finch, House 62

Finch, Purple 25

Finch, Rosy 25

Finley, K. J.

Crows say caw. 45

Fisher 48

*Fishia discors* - Garden Cutworm 208

*Fishia enthea* - Dark Fishia 210

*Fishia evelina* - Raspberry Climbing  
Cutworm 208

*Fishia instruta* - Grey Fishia 208

*Fishia yosemitae* - Yosemite Fishia 210

Flicker, Northern 25

Forsberg, Mrs. E. K.

Others who remember Isabel Priestly.  
151

Four Winds Prairie Photography

Dancing male Sharp-tailed Grouse,  
photo 97

Fox, Red 47

Fox, Swift 47

Francis, C. Stuart

Living memorial would perpetuate  
memory of I. Priestly. 138

Blue Jay

Fuller, Maureen

Others who remember Isabel Priestly.  
150

## G

Godwit, Black-tailed 125, drawing 125

Goldeneye, Common 15, 187

Gollop, Bernie

Bats and Weasels. 118

Observations on Woodpeckers -  
1991. 79

Gollop, J. B.

Cattail, photo 174

Goose, Canada 25, 36, 62, photo 37

Goose, Domestic 36

Gopher, Northern Pocket 48

Goshawk, Northern 15

Grackle, Common 25

Grosbeak, Black-headed 6, 25

Grosbeak, Evening 15

Grosbeak, Pine 15, 63, photo 63

Grouse, Ruffed 15

Grouse, Sage 25

Grouse, Sharp-tailed 15, 96, photos 97,  
98

Grouse, Spruce 25

Guidelines for authors 126

Guillemot, Black 113, photos 114

Gull, California 186, 190

Gull, Franklin's 187

Gull, Mew, photo 84

Gull, Ring-billed 188

Gyrfalcon 25

## H

Hare, Snowshoe 47, 88, 187

Harris, Wayne C., compiler, photo 80

50th Annual Christmas Bird Count:  
1991. 5

Saskatchewan Christmas Mammal  
Count: 1991. 47

Hawk, Cooper's 25, 110

Hawk, Ferruginous 188

Hawk, Red-tailed 25, 97

Hawk, Rough-legged 6, 25

Hawk, Swainson's 188, 233, photo 233

Hawkins, Norma

Others who remember Isabel Priestly.  
152

Henbane, Black 204

*Hillia iris* - Iris Rover 209

*Homoglaea carbonaria* - Smudged  
Sallow 210

*Homoglaea hircina* - Goat Sallow 209

*Homohadena badistriga* - Brown-lined  
Sallow 209



*Homohadena infixa* - Broad-lined Sallow  
209

*Homohadena stabilis* - Brown Sallow

Hooper, Donald F.

A sample from *Birds of East-Central  
Saskatchewan*, photo 232

Gray Tiger Salamander in snow near  
Chelan, photo 72

Len Shandruk with captured Trumpeter  
Swan, photo 108

1992 Larry Morgotch award 238,  
photo 239

1992 SNHS Fellow 241, photo 240

Turtles, snakes and salamanders of  
east-central Saskatchewan. 72

Hooper, Ronald R.

A new skipper for Saskatchewan. 70

Check-list of the moths of

Saskatchewan, Part 10. 205

1992 SNHS Fellow 241, photo 240

Horseman, Bill, photo 188

Houston, C. Stuart, guest editor no. 3,  
photo 182, 183, 186, 191

Bill Horseman of Saltcoats,

Saskatchewan, photo 188

Isabel Priestly's botanical studies for  
Ducks Unlimited. 168

Great Horned Owl pellets, photo 195

Lasting influence of Isabel M. Priestly.  
175

North America's oldest Great Horned  
Owl. 88

The Squaw Creek Saga. 81

Houston, C. Stuart and Mary I.

Banding recoveries: a 48-year  
experience or: "it's really Mrs.  
Priestly's fault". 182

Houston, Mary, photo 182

Hal Fleischhaker's mounted owls,  
photo 89

Hubbard, Elizabeth K.

Others who remember Isabel Priestly.  
153

Hummingbird, Ruby-throated, photo  
cover no. 2

Hunt, J. David, Roger M. Evans and  
George Shnier

Bald Eagle predation on inland  
Double-crested Cormorant. 115

## J

Jay, Blue 15, photo 152

Jay, Gray 15

James, Paul C.

Where do Canadian Burrowing Owls  
spend the winter? 93

James, Paul C. and Curt Schroeder

Results of the 1992 SNHS members  
and non-members survey. 235

Jensen, Ron

A tree giant. 66

Giant willow at Clearwater Lake, SK,  
photo 66

Jordheim, Sig

Cattle Egret at White Bear. 62

Domestic-native goose relationship.  
36

Jowsey, J. R.

Red-bellied Woodpecker sighting at  
Saltcoats. 78

Sylvia van Brien (Harrison) - an  
extraordinary naturalist. 244

Junco, Dark-eyed 15, 25

## K

Kalcounis, Matina C., Ryan D. Csada,  
and R. Mark Brigham

The status and distribution of the  
Common Poorwill in the Cypress  
Hills, Saskatchewan. 38

Killdeer 188

Kinglet, Golden-crowned 6, 25

Kuyt, Ernie, Samuel J. Barry and  
Brian Johns

Below average Whooping Crane  
production in Wood Buffalo  
National Park during drought  
years 1990 and 1991. 225

## L

Lahrman, Fred

Black-billed Godwit, drawing 125

Mew Gull, Lake Athabasca, photo 84

Lark, Horned 5

Ledingham, George

Others who remember Isabel Priestly.  
154

Leighton, Anna L.

Do crows (c)aw in Cree? 100

*Lithomoia solidaginis* - American  
Peasant 208

*Lithophane amanda* - Distant Pinion 206

*Lithophane bethunei* - Bethune's Pinion  
206

*Lithophane disposita* - Disposita Pinion  
206

*Lithophane fagina* - Beech Pinion 206

*Lithophane ferrealis* - Iron Pinion 210

*Lithophane georgii* - Large Grey Pinion  
206

*Lithophane innominata* - Nameless  
Pinion 206

*Lithophane laticinerea* - Black-spotted  
Pinion 206  
*Lithophane lepida* - Paxata Pinion 206  
*Lithophane petulca* - Wanton Pinion 206  
*Lithophane thaxteri* - Thaxter's Pinion 206  
*Lithophane unimoda* - Dowdy Pinion 206  
*Lomilysis discolor* - Discoloured Rover  
210

Longspur, Chestnut-coloured 6, 25

Longspur, Lapland 5, 25

Loon, Common 6, 25

Loon, Yellow-billed 6, 25

*Lycopodium annotinum* 68

*Lycopodium complanatum* 68

Lynch, Wayne

Mourning Dove, photo 255

Lynx 47, 188

## M

MacKenzie, Jean

Portrait. 61

Magpie 125

Magpie, Black-billed 5

Mallard 5, 185, photo 171

Mammal count

Saskatchewan Christmas 1991. 47

Manitoba

Aweme, lepidoptera 210

Bird's Hill Provincial Park, photos 121,  
122

Brandon 62

Cape Merry, 106

Carberry, birds 102

Churchill, birds 101, 113

Gill River, birds 102

Gladstone, birds 102

Grand Rapids, birds 101, 115

La Salle River, birds 33

Lake of the Woods, birds 104

Lake St. Martin, birds 101

Lake Winnipeg, birds 31, 102

Miniota, lepidoptera 210

Portage la Prairie, birds 102

Roblin, birds 88

Two Rivers, birds 102

White Mud River, birds 104

Winnipeg, birds 79, 91, 101, 110

Winnipeg River, 104, 223

Map

Burrowing Owl breeding range in the  
Prairie Provinces 202

Confirmed and possible Peregrine  
Falcon nest sites in Manitoba,  
birds 103

Location of 1991 counts, CBC 14

Poorwills sighted/heard Cypress Hills  
Provincial Park-West Block,  
birds 40

Regional context of study area,  
birds 39

Recoveries of Canadian Burrowing  
Owls from the U.S., birds 94

Sightings of snakes in east-central  
Saskatchewan, herps 77

Sightings of turtles and salamanders  
in east-central Saskatchewan,  
herps 74

The Rousay and York Lakes,  
1943-45, 168

Mayhew, Kenny

Kenny says.... 134

This week in sport. 162

Mazur, Kurt M.

Fall food of the Eastern Screech-owl  
in Manitoba. 33

Meadowlark, Western 6

Memoriam

Sylvia van Brien 244

Merasty, Carol

A mother and son's first nature trail  
experience. 85

Merlin 15, 118, 216

Merganser, Common 25

*Metaxaglaea inulta* - Unsated Sallow 210

Meyers, Daisy D.

Canada Goose nest, photo 37

First Record of Black Henbane at  
Leader. 204

More albino birds. 62

Miller, David G., photo 186

Ripples. 176

Mink 48

*Mniotype fervida* - Fervid Rover 210

*Mniotype miniota* - Miniota Rover 209

*Mniotype versuta* - Alberta Rover 209

Moor, W. H.

In woods and fields. 139

Moose 48

Moth, Polyphemus, photo 122

Moth, Polyphemus Silk, cocoon, photo  
124

Mouse, Deer 48

Mouse, House 48

Muskrat 48

## N

Nero, Robert W.

Juvenile Black Guillemot, photos 114

New Great Horned Owl longevity  
record. 91



- Second winter record of Black Guillemot  
at Churchill, Manitoba. 113
- Nighthawk, Common 211, photo 212  
Niven, William  
Others who remember Isabel Priestly.  
155
- Nuthatch, Red-breasted 15  
Nuthatch, White-breasted 15  
*Nycterophaeta luna* - White Falconer 206
- O**
- O'Grady, Rhonda  
Handle with care. 61  
Ice sculpture, photo 64  
Rosehips after freezing rain, photo  
cover no. 1
- Oncocnemis albifasciata* - White-banded  
Beauty 208
- Oncocnemis augustus* - Augustus  
Beauty 207
- Oncocnemis balteata* - Balteata Beauty  
207
- Oncocnemis chandleri* - Grey beauty 207
- Oncocnemis cibalis* - Delicate Beauty 207
- Oncocnemis colorado* - Colorado Beauty  
210
- Oncocnemis dayi* - Day's Beauty 210
- Oncocnemis figurata* - Figured Beauty  
207
- Oncocnemis hayesi* - Haye's Beauty 207
- Oncocnemis iricolor* - Iris-coloured  
Beauty 210
- Oncocnemis lepipoloides* - Lepipoloides  
Beauty 208
- Oncocnemis levis* - Smooth Beauty 208
- Oncocnemis mackiei* - Mackie's Beauty  
208
- Oncocnemis occata* - Harrow Moth 207
- Oncocnemis piffardi* - Black-banded  
Beauty 207
- Oncocnemis regina* - Regina Beauty  
208, photo 207
- Oncocnemis riparia* - Riparian Beauty  
208
- Oncocnemis sanina* - Sanina Beauty 210
- Oncocnemis saundersiana* - Saunder's  
Beauty 210
- Oncocnemis simplex* - Simplex Beauty  
210
- Oncocnemis viriditincta* - Viriditincta  
Beauty 208
- Ontario  
Minaki, birds 101
- Orchis rotundifolia* 68
- Oriole, Orchard 222
- Orobancha faciculata* - Clustered  
Broomrape 121
- Osprey 31, 81, 188, photos 32, 83
- Otter, River 48, 223
- Owl, Barred 15, 25
- Owl, Boreal 25
- Owl, Burrowing 93, 201
- Owl, Great Gray 6
- Owl, Great Horned 15, 88, 91, 188, 187,  
195, photos 88, 89, 195, 196
- Owl, Long-eared 25
- Owl, Northern Hawk 6, 80, 180, photo 80
- Owl, Northern Saw-whet 25, photo cover  
no. 4
- Owl, Short-eared 6, 25
- Owl, Snowy 15
- P**
- Partridge, Gray 15
- Pelican, American White 25, 86, photo 86
- Peterson, Lloyd O. T.  
Others who remember Isabel Priestly.  
155
- Pheasant, Ring-necked 15, 63
- Pivnick, Ken  
Albino Gray Squirrel in Ohio. 234
- Physalis heterophylla*, photo 149
- Pike, Christine  
1992 SNHS Fellow 241, photo 240
- Pintail, photo 140
- Plagiomnium ellipticum* 68
- Plagiomnium rugicum* 68
- Platypolia anceps* - Rugged Rover 209
- Pleromelloida obliquata* - Oblique Rover  
209
- Plover, Piping 188
- Poem  
Handle with care 61  
Portrait 61  
Summer has come 120
- Poorwill, Common 38, photo 41
- Porcupine 48
- Prairie Dog, Black-tailed 47
- Priestly, Bob, 160, 162, photos 132, 148,  
161
- Priestly, Diana, 163, 165, photos 142,  
drawing 164
- Reminiscences of Diana and Michael  
Priestly. 141
- Priestly, Frank, 163, photo 148
- Priestly, Isabel M., 131, 134, 137, 138,  
139, 140, 141, 150, 168, 175, 176,  
182, photos 130, 132, 142, 194
- Priestly, R. Michael, 167, photo 148

R. Michael Priestly, autobiographical  
note. 167  
Reminiscences of Diana and Michael  
Priestly. 147  
Pronghorn 48  
*Pseudacontia crustaria* - Crustarian  
Beauty 207

## R

Raccoon 48  
Rail, Black 218  
*Rancora albicinerea* - Albicinerea  
Falconer 205  
Rand, A. L.  
Others who remember Isabel Priestly.  
156  
Raven, Common 5  
Redhead 185  
Redpoll, Common 15, 189  
Redpoll, Hoary 15  
Robin, American 15  
Roney, Keith  
American Swordgrass, photo 208  
Intermediate Falconer, photo 206  
Pepper and Salt Skipper, photos 70, 71  
Regina Beauty, photo 207  
Rowell, Lorne  
Do carrion beetles kill young birds? 123  
Roy, J. Frank  
1992 Cliff Shaw Award 238  
Others who remember Isabel Priestly.  
156

## S

Salamander, Gray Tiger, 72, photo 72  
Sandpiper, Least 188  
Sandpiper, Pectoral 188  
Sandpiper, Semi-palmated 188  
Sapsucker, Yellow-bellied, photo 79  
Saskatchewan  
Abernethy-Katepwa Lake, CBC 6, CMC  
48  
Armit, CBC 6, CMC 48, lepidoptera 70  
Avonlea, birds 22  
Aylsham, lepidoptera 205  
Bainbridge, lepidoptera 206  
Bangor, CBC 6, CMC 48  
Barrier Lake, herps 73  
Bateman, lepidoptera 207  
Battleford, CBC 6, lepidoptera 209  
Bethune, CBC 6, CMC 48  
Big Muddy Lake, CBC 6, CMC 48  
Big River, CBC 7, CMC 48  
Biggar, CBC 6, CMC 48  
Birch Hills, CBC 7, CMC 48  
Bjorkdale, herps 73, lepidoptera 209  
Blaine Lake, birds 46

Blue Jay

Borden, CBC 7, CMC 48  
Brightwater Reservoir, CBC 7,  
CMC 48  
Broadview, CBC 7  
Bromhead, CBC 7, CMC 49  
Buffalo Pound Provincial Park,  
lepidoptera 209  
Candle Lake, CBC 7, CMC 49,  
lepidoptera 206  
Canwood, lepidoptera 209  
Carnduff, birds, cover no. 4  
Carragana, CBC 11, CMC 56  
Chelan, herps 72  
Choiceland-Gronlid, CBC 7, CMC 49  
Christopher Lake, CBC 11, CMC 56  
Clark's Crossing, CBC 7, CMC 49  
Clearwater Lake, photo 66  
Clearwater River, lepidoptera 209  
Codette, herps 76  
Cold Lake, birds 86  
Coleville, birds 27  
Conquest-Outlook, CBC 7, CMC 49  
Craven, CBC 7, CMC 49  
Cree Lake, birds 183  
Crooked Lake, CBC 7, CMC 49  
Crooked River, CBC 7  
Cumberland House, herps 75,  
lepidoptera 205  
Cypress Hills, birds 38, 107, flora 67,  
herps 76, lepidoptera 206  
Dalmeny, CBC 7, CMC 49  
Davin Lake, lepidoptera 207  
Dilke, CBC 7  
Duval, CBC 7, CMC 49  
Earl Grey, lepidoptera 207  
Eastend, lepidoptera 207  
Edam, CBC 7, CMC 50  
Elstow, birds 98, 91  
Emma Lake, birds 187  
Endeavour, CBC 73, CMC 50  
Erwood, lepidoptera 70, herps 73  
Estevan, herps 76, lepidoptera 207  
Estuary, lepidoptera 207  
Fenton, CBC 7, CMC 50  
Fort Esperance, lepidoptera 209  
Fort Qu'Appelle, CBC 5, CMC 50,  
lepidoptera 206  
Fort Walsh CBC 5, CMC 50  
Frenchman River, birds 38  
Gardiner Dam, CBC 6, CMC 50  
Glentworth, CBC 5, CMC 47  
Good Spirit Lake, CBC 7, CMC 50  
Govenlock, CBC 6, CMC 50  
Grasslands National Park, CBC 7,  
CMC 47



- Grayson, CBC 6  
 Great Sand Hills, birds 38  
 Green Lake, lepidoptera 206  
 Greenwater Lake Provincial Park, birds 107, herps 73  
 Grenfell, CBC 7  
 Gronlid, herps 73  
 Harlan, lepidoptera 205  
 Hasbala Lake, lepidoptera 207  
 Hepburn, CBC 7  
 High Tor, herps 73  
 Hudson Bay, CBC 5, CMC 51, herps 73  
 Humboldt, birds 89, CBC 7, CMC 51  
 Ile-a-la-Crosse, lepidoptera 209  
 Indian Head, CBC 5, CMC 51, lepidoptera 207  
 Jan Lake, lepidoptera 205  
 Kamsack, CBC 7, CMC 51, lepidoptera 205  
 Kelvington, CBC 8, CMC 51, herps 75  
 Kenaston, CBC 8, CMC 51  
 Killdeer, lepidoptera 208  
 Kilwinning, CBC 8, CMC 51  
 Kindersley, birds 188, CBC 8, CMC 51  
 Kinloch, CBC 8, herps 73  
 Kuroki, herps 75  
 Kutawagan Lake, CBC 8, CMC 52  
 Kyle, plants 66  
 La Ronge, CBC 8, CMC 52, lepidoptera 207  
 Lady Lake, herps 73  
 Last Mountain Lake, birds 233, lepidoptera 205  
 Last Mountain Lake Wildlife Management Unit, birds 186, CBC 8, CMC 52  
 Leader, birds 63, CBC 8, CMC 52, plants 204  
 Leech Lake, 168  
 Lestock, lepidoptera 209  
 Lintlaw, herps 73  
 Livelong, CBC 8  
 Loon Lake, birds 81, 85  
 Love, lepidoptera 205  
 Love-Torch River, CBC 8, CMC 52  
 Lower Rousay Lake 168  
 Luseland, CBC 8, CMC 52  
 MacDowell, CBC 8  
 Marean Lake, herps 75  
 Matador, CBC 8, CMC 52  
 McKague, herps 73  
 Meadow Lake, CBC 8  
 Melfort, birds 214, CBC 8, CMC 52  
 Melville, CBC 8, CMC 52  
 Ministikwan Lake, birds 81  
 Moose Jaw, birds 46, 214, CBC 6, CMC 53, lepidoptera 205  
 Moosomin, lepidoptera 206  
 Naicam, CBC 8, CMC 53  
 Neely Lake, CBC 8  
 Nipawin 178, CBC 8, CMC 53, lepidoptera 124, 206  
 North Battleford, birds 214  
 Oxbow, lepidoptera 205  
 Patterson Lake, lepidoptera 207  
 Pike Lake, CBC 8, CMC 53  
 Porcupine Plain, CBC 8, herps 73  
 Preeceville, CBC 8, CMC 53  
 Primrose Lake, birds 86  
 Prince Albert, birds 80, 214, CBC 8, CMC 53  
 Prince Albert National Park, CBC 8, CMC 53, mammals 117, lepidoptera 206  
 Qu'Appelle Valley Dam, CBC 9, CMC 53  
 Quinton, lepidoptera 207  
 Raymore, CBC 5, CMC 54  
 Read Lake, CBC 9, CMC 54  
 Red Earth, herps 75, lepidoptera 206  
 Redberry Lake, birds 187  
 Regina, birds 214, 218, CBC 5, CMC 54  
 Ridgedale, herps 75  
 Roche Percee, lepidoptera 208  
 Rockglen, lepidoptera 205  
 Rosefield, lepidoptera 207  
 Round Lake, CBC 9, CMC 54, herps 75  
 Rutland, lepidoptera 206  
 St. Louis, lepidoptera 209  
 Saltcoats, birds 78  
 Saskatchewan Landing, lepidoptera 207  
 Saskatoon, birds 27, 79, 97, 109, 211, CBC 6, CMC 54, lepidoptera 205  
 Scott, CBC 9, CMC 54  
 Scout Lake, lepidoptera 208  
 Shoal Lake, lepidoptera 206  
 Simpson, CBC 9, CMC 54  
 Skull Creek, CBC 9, CMC 54  
 Smokey Burn, herps 76  
 Somme, CBC 9, herps 75, lepidoptera 205  
 Spalding, birds 220, CBC 9, CMC 54  
 Spinney Hill, CBC 9, CMC 55  
 Spring Valley, CBC 9, CMC 55  
 Spruce Home, CBC 9  
 Squaw Creek, birds 81  
 Squaw Rapids, CBC 5, CMC 55

- Stanley Mission, lepidoptera 209  
 Stewart Valley, lepidoptera 207  
 Sturgeon Landing, herps 76, lepidoptera 209  
 Swift Current, CBC 9, CMC 55, lepidoptera 205  
 Tantallon, lepidoptera 208  
 Tisdale, birds 63, CBC 9, CMC 55  
 Tompkins, CBC 9, CMC 55, lepidoptera 207  
 Turtle Lake, CBC 11  
 Upper Makwa Lake, birds 81  
 Upper Rousay Lake, 168, photo 171, 194  
 Val Marie, birds 109, CBC 9, CMC 55, lepidoptera 205  
 Vanscoy-Delisle, CBC 11  
 Warman, CBC 11  
 Wauchope, CBC 11, CMC 55  
 Weekes, lepidoptera 207  
 Weyburn, birds 214, CBC 5, CMC 56  
 White Bear, birds 36, 62, CBC 11, CMC 56  
 White Bear Lake, CBC 6, CMC 56  
 Whitebeech, CBC 11, CMC 56  
 Whitewood, CBC 11, CMC 56  
 York Lake, photo 172  
 Yorkton 131, 134, CBC 11, CMC 56  
 Saskatchewan Natural History Society  
   Members and non-members survey results 235  
   1992 Annual General Meeting 238  
   1992 SNHS Fellows 241, photo 240  
   SNHS balance sheet 243  
   Statement of financial activities and fund balance for the year ending 31 August 1992, 242  
 Scaup, Lesser 25  
 Scott, Lorne  
   Sharp-tailed Grouse, photo 98  
   1992 SNHS Fellow 241, photo 240  
 Scoter, White-winged 187  
 Screech-owl, Eastern 33  
 Seib, Gary  
   Great Horned Owl, photo 196  
 Seib, Gary W.  
   Opening of Maurice Street Wildlife Sanctuary, photo 179  
 Shadick, Stan  
   1992 Weyburn Birdathon 241, photo 240  
 Shandruk, Len, photo 108  
 Shandruk, Len, Donald F. Hooper and Rhys Beaulieu  
   Trumpeter Swans breeding in east-central Saskatchewan. 107  
 Shrew, Masked 48  
 Shrew, Short-tailed 47  
 Shrike, Northern 15  
 Silversides, Gordon  
   1992 Conservation Award 238, photo 239  
 Siskin, Pine 15  
 Skeel, Margaret  
   Don Hooper receives Larry Morgotch Award, presented by Frank Switzer, photo 239  
   Doug Schmeiser accepts Cliff Shaw Award, presented by John Pollock and Ruth Shaw, photo 238  
   Gordon Silversides accepts the 1992 Conservation award, presented by Katherine Letkiman of Yorkton, photo 239  
   1992 SNHS Fellows, photo 240  
   Stan Shadick receives 1992 Weyburn Birdathon individual award, photo 240  
 Skipper, Pepper and Salt 70, photos 70, 71  
 Skunk, Striped 48  
 Smith, Gordon J.  
   Clustered Broomrape, Bird's Hill Provincial Park, Manitoba, photo 121, 122  
   Male Yellow-bellied Sapsucker, Winnipeg, photo 79  
   Polyphemus moths (mating), Bird's Hill Provincial Park, Manitoba, photo 122  
   White-tailed Deer fawn, Bird's Hill Provincial Park, Manitoba  
 Smith, James D.  
   Isabel Priestly holds American Bittern for banding, photo 194  
   J. R. Foreman holding Mallard, photo 171  
 Smith, Jim  
   Others who remember Isabel Priestly. 157  
 Smith, Ruth  
   Others who remember Isabel Priestly. 157  
 Snake, Red-sided Garter 76  
 Snake, Western Plains Garter 75, photo 76  
 Solitaire, Townsend's 25  
 Sparrow, American Tree 25  
 Sparrow, Clay-coloured 189  
 Sparrow, Fox 6, 25

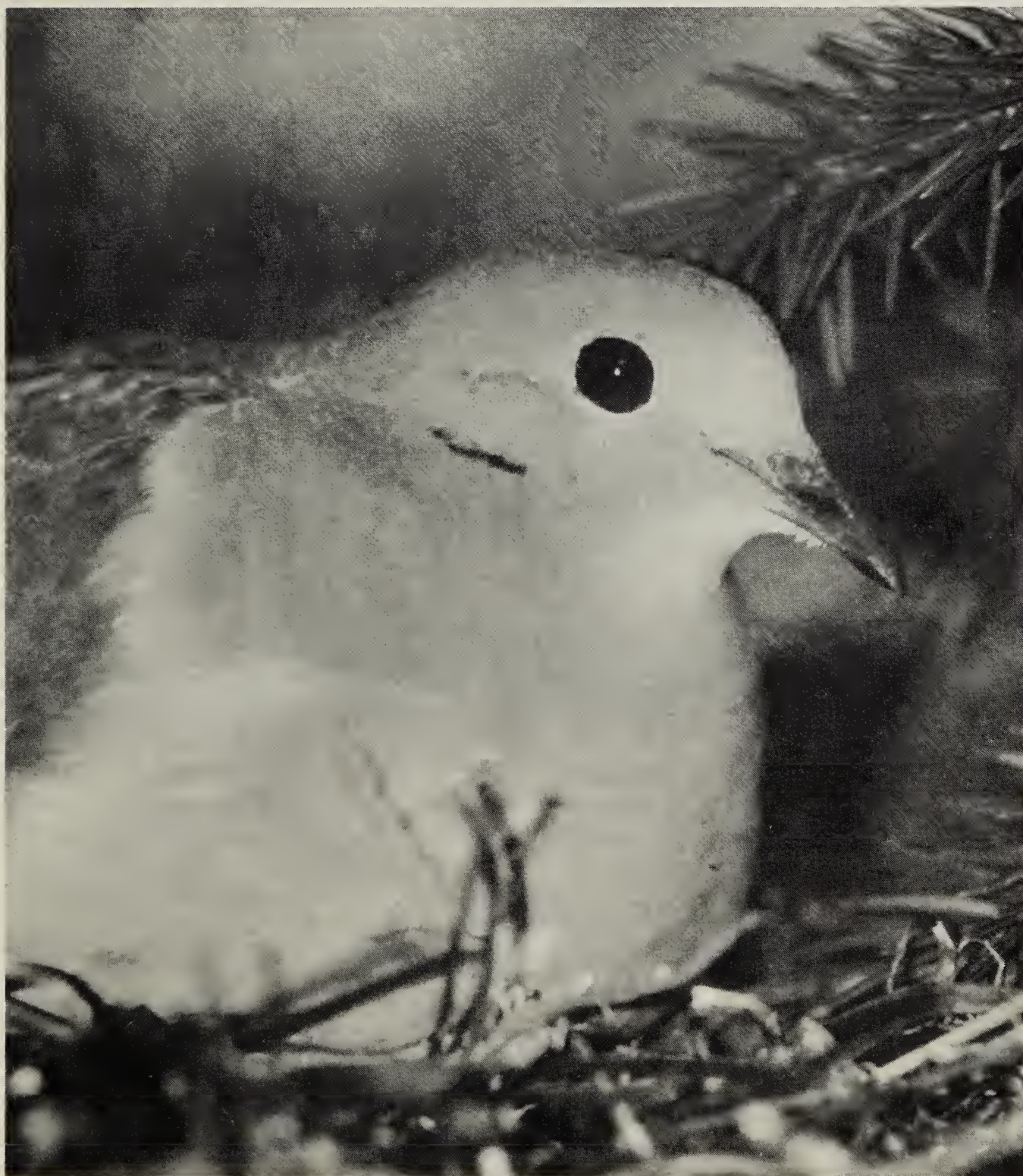


- Sparrow, Harris' 25  
 Sparrow, House 5, 220  
 Sparrow, Lincoln's 189  
 Sparrow, Savannah 6, 25  
 Sparrow, Song 25  
 Sparrow, White-crowned 6, 25  
 Sparrow, White-throated 25, 220, sketch 221  
*Sphagnum warnstorffianum* 68  
*Sphagnum warnstorffii* 68  
 Spizawka, Velma  
     The White-throated Sparrow that stayed. 220  
     White-throated Sparrow, sketch 221  
 Squirrel, Fox 48  
 Squirrel, Grey 48, 234  
 Squirrel, Northern Flying 48  
 Squirrel, Red, CMC 48  
 Squirrel, Richardson's Ground 48  
 Squirrel, 13-lined Ground 48  
 Starling, European 15  
 Stein, Aletha  
     Dazed but friendly Pine Grosbeak. 63  
     Pine Grosbeak, photo 63  
 Street, Maurice 178  
 Summers, Pauline  
     Others who remember Isabel Priestly. 158  
*Sunira bicolorago* - Bicoloured Sallow 209  
*Sunira verberata* - Western Sallow 209  
*Sutyna privata* - Private Sallow 209  
*Sutyna profunda* - Profound Sallow 209  
 Swallow, Cliff 110  
 Swallow, Violet-green 109  
 Swan, Trumpeter 25, 107, photo 108  
 Switzer, Frank  
     Common Nighthawk on nest, photo 212  
*Sympistis funesta* - Black-banded Arctic 207  
*Sympistis melaleuca* - Black-edged Arctic 207  
*Sympistis zetterstedti* - Labrador Arctic 207  
**T**  
 Taylor, Ernie  
     Osprey nest on power pole, photo 32  
 Taylor, Peter  
     Bald Eagles steal fish from River Otters. 223  
 Taylor, Robert P.  
     Peregrine nesting on Delta Winnipeg Hotel, 1989, photo 102  
 Teal, American Green-winged 25  
 Teal, Blue-winged 184  
 Teal, Cinnamon 46  
*Telea polyphemus* 124  
 Thrush, Gray-cheeked 189  
 Thrush, Hermit 189  
 Thrush, Swainson's 189  
 Thrush, Varied 25  
 Tokaryk, Tim  
     The extinction and survival of birds - 65 million years ago. 1  
 Tosh, George  
     1992 Cliff Shaw Award 238  
 Trevor, John T.  
     Possible breeding pair of Cinnamon Teal in the Thickwood Hills, Saskatchewan. 46  
 Trowsdale Mutafov, Deanna  
     Does the labelling restriction on Carbofuran containers help protect Burrowing Owls? 201  
 Turkey, Wild 25  
 Turtle, Western Painted 73, photo 75  
**U**  
 United States  
     California, birds 93  
     Colorado, birds 93, lepidoptera 210  
     Montana, lepidoptera 210  
     Nebraska, birds 93  
     Ohio, birds 234  
     Oklahoma, birds 93  
     Texas, birds 93, 225  
     Utah, birds 93  
**V**  
 Van Brien, Sylvia 244  
 Vole, Gapper's Red-backed 48  
 Vole, Meadow 48  
 Vole, Sagebrush 47  
 Von Kuster, Dylan D. and David Schneberger  
     Diet of the Great Horned Owl in central Saskatchewan. 195  
 Vulture, Turkey 6  
**W**  
 Warbler, Myrtle 190  
 Warbler, Orange-crowned 190  
 Warbler, Tennessee 190  
 Watson, Harold  
     House Finch visits Brandon. 62  
 Waxwing, Bohemian 15, 189  
 Waxwing, Cedar 15  
 Weasel, Least 48  
 Weasel, Long-tailed 48, 118



Wedgwood, Jim  
 Common Nighthawks in Saskatoon.  
 211  
 Tolerance of short-term disturbances by  
 Sharp-tailed Grouse. 96  
 Williams, Michael  
 1992 Weyburn Birdathon 241,  
 photo 241  
 Willow 66, photo 66  
 Wolf 48, 117, 226, tracks, photo 118  
 Woodpecker, Black-backed 15  
 Woodpecker, Downy 15, 79  
 Woodpecker, Hairy 15  
 Woodpecker, Pileated 15  
 Woodpecker, Red-bellied 27, 78, photos  
 28  
 Woodpecker, Red-headed 6, 25

Woodpecker, Three-toed 25  
 Wright, David H.  
 Violet-green Swallows at Saskatoon.  
 109  
 Wright, Honourable Mr. Justice David H.  
 Tribute to Maurice Street. 178  
 X  
*Xanthia togata* - Barred Sallow 209  
*Xylena cineritia* - Western Swordgrass  
 210  
*Xylena curvimacula* - Dot and Dash  
 Swordgrass 210  
*Xylena nupera* - American Swordgrass  
 210, photo 208  
*Xylotype acadia* - Acadian Rover 209  
*Xylena thoracica* - Grey Swordgrass 210



Mourning Dove

Wayne Lynch



# **BIRDERS JOURNAL**

LATEST BIRD NEWS FROM ACROSS CANADA  
IDENTIFICATION ARTICLES  
COLOUR PLATES  
RARITY REPORTS  
BIRD NEWS FROM ONTARIO  
LONG POINT BIRD OBS. COLUMN  
INTERNATIONAL CONSERVATION NEWS  
PHOTO-QUIZ and PRIZE-BIRD  
BOOK REVIEWS  
PRODUCT REVIEWS  
.....AND MORE.....

**The premier journal for Canada,  
now in its second year.  
Six high quality issues per annum.**

Subscription rate per annum: \$34 (in Canada),  
\$38US (in the USA).

Write: Birders Journal, Circulation Department,  
8 Midtown Circle, Suite 289, Oshawa,  
Ontario, L1J 8L2.



## MEMBERSHIP RENEWAL AND GIFT FORM

Name ..... Phone .....

Address .....

City/Town ..... Prov. .... Postal Code .....

**MOVING?** To avoid missing any issues of the *Blue Jay*, please write your old address above, and your new address below:

Name ..... Phone .....

Address .....

City/Town ..... Prov. .... Postal Code .....

Effective.....

**Membership Type** (Please check) (Prices listed in Canadian funds)

Regular — Canada (\$15) .....	[ ]	Regular — outside Canada (\$18) .....	[ ]
Family — Canada (\$20) .....	[ ]	No. of family members .....	[ ]
Youth — Canada (\$8) .....	[ ]	Senior Citizen — Canada (\$13) .....	[ ]
Sustaining (\$30) .....	[ ]	An income tax receipt for Life,	
Patron (\$60) .....	[ ]	Patron, or Sustaining Membership	
Life (\$600) .....	[ ]	and Donations check here .....	[ ]

I am a new member for 199 \_\_\_\_

This is a renewal for 199 \_\_\_\_

I wish to make a donation to:

Conservation Fund \$ \_\_\_\_ [ ]

Heritage Marshes Fund \$ \_\_\_\_ [ ]

Other \$ \_\_\_\_ [ ]

*Check above if receipt is required.*

\* **Life membership** is payable at one time, or over five years, or any shorter period agreed.

\* Any amount over \$10 in excess of the regular membership of \$15 is viewed as a **donation** for income tax purposes and a receipt for the excess amount will be mailed if the appropriate box is checked above.

\* **Bulk subscriptions** to schools and clubs are \$15 for the first subscription and \$13 for each additional subscription to the same address (minimum of five subscriptions).

Please send **Blue Jay Gift Subscription** to:

Name ..... Phone .....

Address .....

City/Town ..... Prov. .... Postal Code .....

[ ] Check here if you wish us to send a card announcing the gift.

**Type of membership** (Please check) (Prices listed in Canadian funds)

Individual — Canada (\$15).....	[ ]	Individual — Outside Canada (\$18) .....	[ ]
Family — Canada (\$20) .....	[ ]	No. of family members .....	[ ]
Youth — Canada (\$8) .....	[ ]	Senior — Canada (\$13) .....	[ ]

\*Send renewal form to

**SNHS**  
**Box 4348**  
**Regina, Saskatchewan**  
**S4P 3W6**

Make cheques and money orders payable to **Saskatchewan Natural History Society**.

Your donation will be acknowledged in Blue Jay News by name only. Check here if you *do not wish* to be acknowledged. [ ]

\* Do you know of any person interested in natural history and conservation who does not receive the *Blue Jay*? Please send their name and address and we will send a sample *Blue Jay* and an invitation to join our Society.



THIS ORGANIZATION RECEIVES FUNDING FROM:





**SASKATCHEWAN NATURAL HISTORY SOCIETY**  
**BOX 4348, REGINA, SASKATCHEWAN S4P 3W6**  
**(306) 780-9273 FAX (306) 781-6021**

**BLUE JAY BOOKSHOP**  
**BOX 22270**  
**REGINA, SASKATCHEWAN S4S 7H4**

**BOARD OF DIRECTORS**

**OFFICERS**

Honorary President.....vacant  
President .....Douglas A. Schmeiser.....College of Law, Sub P.O. 6, U. of S.,  
.....Saskatoon S7N 0W0  
Past President .....Frank Switzer .....1301 Shannon Road, Regina S4S 5K9  
First Vice-President .....Paul James.....General Delivery, Pilot Butte S0G 3Z0  
Second Vice-President .....Jim Duncan .....General Delivery, Craven S0G 0W0  
Treasurer .....Bob Berthiaume.....11 Mowat Place, Regina S4R 3W3  
Secretary .....Lance Irvine.....85-3rd Ave. N., Yorkton S3N 1C2  
EXECUTIVE DIRECTOR .....Curt Schroeder .....57 Malone Cres., Regina S4S 5J4

**APPOINTED DIRECTORS**

Blue Jay Bookshop.....Burt and Lois Gibson.....Box 22270, Regina S4S 7H4  
Blue Jay Editor .....J. Lynn Brown.....209-27th St. W., Saskatoon S7L 0J4  
Blue Jay News Editor .....John Pollock .....Box 353, Whitewood S0G 5C0  
CNF Representative.....vacant  
Conservation .....Jim Elliott .....2258 Rae St., Regina S4T 2E9  
Endangered Species & Spaces....Andy Didiuk .....314 Egbert Ave., Saskatoon S7N 1X2  
Finance Chairman .....Jim Slimmon.....2526 Hanover Ave., Saskatoon S7J 1G1  
Special Publications .....Mary Gilliland.....902 University Dr., Saskatoon S7N 0K1  
Membership.....Del Cairns.....General Delivery, Fort Qu'Appelle S0G 1S0  
Member Initiatives .....Merv Hey .....104 Dunlop St., Saskatoon S7N 2B5  
Tour Director.....Stanley Shadick.....304-1008 Temperance St., Saskatoon S7N 0N6

**REPRESENTATIVES AT LARGE**

Phylliss Bordass .....Box 313, Fort Qu'Appelle S0G 1S0  
Kathleen Donauer.....11 Mowat Place, Regina S4R 3W3  
Melanie Elliott .....4-103 Powe St., Saskatoon S7N 1W5  
Merv Hey .....104 Dunlop St., Saskatoon S7N 2B5  
Brian Irving .....Box 727, Kelvington S0A 1W0  
Johanna Jensen .....40 Daffodil Cres., Regina S4S 5A3  
Ron Jensen .....849-10th Ave., Swift Current S9H 2T4  
George Mitchell .....4322 Castle Rd., Regina S4S 4W3  
Christine Pike .....Box 117, Waseca S0M 3A0  
Michael Raine.....Box 2647, Melville S0A 2P0  
Randy Schmidt .....518 Wathaman Cres., Saskatoon S7K 4P9  
Frank Scott .....R.R. 3, Saskatoon S7K 3J6

**PRESIDENTS OF LOCAL SOCIETIES**

Fort Qu'Appelle.....Ronald Hooper .....Box 757 S0G 1S0  
Hudson Bay .....Donald Hooper .....Box 40, Somme S0E 1N0  
Indian Head .....Vic Beaulieu .....Box 1213 S0G 2K0  
Melfort.....Phil Curry.....Box 1115 S0E 1A0  
Moose Jaw .....Ed Walker.....1071 Laurier St. S6H 2W6  
Prince Albert.....Carman Dodge .....Box 285 S6V 5R5  
Regina .....Donna Barclay .....3021 Argyle Rd. S4S 2B3  
Saskatoon.....Michael Williams.....Sub P.O. #6, Box 448 S7N 1R1  
Weyburn .....Grace Kurtz .....112-6th Ave. S.E. S4H 1Y8  
Yorkton .....Warren Hjertaas .....510 Circlebrooke Dr. S3N 2Y3



Sarjeant, William A.S.  
674 University Dr.  
SASKATOON SK  
S7N 0J2 EXP: 12/31/92

R



**Second Class mail registration Number 1046**  
**Please return unclaimed copies.**  
**Return postage guaranteed.**

**Box 4348, Regina, Saskatchewan.**  
**S4P 3W6**





**A32531**